ARCHAEOLOGICAL EXCAVATIONS AT THE LEWIS POTTERY SITE (15JF658), LOUISVILLE, JEFFERSON COUNTY, KENTUCKY

By

M. Jay Stottman and V. Camille Westmont

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ABSTRACT

At the request of the Jefferson Development Group, in order to fulfill requirements of the Metro Louisville Downtown Development Overlay District requirement, the Kentucky Archaeological Survey investigated the Lewis Pottery site (15Jf658) located in downtown Louisville, Jefferson County, Kentucky. The purpose of the investigation was to investigate intact archaeological deposits associated with the Lewis Pottery and better understand the history of the pottery operation and in particular its role in the experimentation and manufacture of domestic fine whiteware dinnerware. As a result of this study intact archaeological deposits associated with the pottery operation from 1815 to 1850, including waster deposits and two worker's privies were investigated. This study identified deposits associated with five different phases of the pottery's history, including: the initial establishment of the pottery prior to the beginning of whiteware production; early whiteware experimentation and production; construction of whiteware production specific equipment like the glost kiln; late full-scale whiteware production; and the production of whiteware by subsequent pottery operators after Lewis left. The work associated with these deposits has corroborated and enhanced the documentary record regarding the pottery's history. It demonstrated that not only was whiteware actually produced at the pottery, but also that it was done on a much larger scale than previously thought. It also illuminated the inherent challenges associated with producing domestic whiteware, from using stoneware equipment, working with different fuels for the kiln, problems with glaze and paste structure, and that saleable product was being made and sold. The excavations at the Lewis Pottery have demonstrated the value of researching waster deposits and the important role that this pottery played in the development of America's pottery industry.

ACKNOWLEDGEMENTS

I would like to thank Jefferson Development Group for the opportunity to study is very important site and to the Metro Downtown Overlay District staff and committee for recognizing its importance. I am indebted to all the KAS staff and volunteers who worked on the project and especially the University of Louisville field school. I appreciate the assistance of Melvin Carillo for operating the mechanical excavator. I also would like to thank David Morgan and the staff at the Metro Louisville Archives their assistance with the archival research. Thank you to Hayward Wilkerson and Donna Gilbreath for producing some of the graphics. Finally, a special thanks to Gary and Diana Stradling, Bob Genheimer, and Kim and Stephen McBride who helped bring the history and archaeological potential of this important site to light.

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CHAPTER 1:
INTRODUCTION

The Kentucky Archaeological Survey (KAS) conducted archaeological investigations of the Lewis Pottery site (15Jf658), in Louisville, Jefferson County, Kentucky (Figure 1-1). This work was carried out for the Jefferson Development Group to fulfill requirements of the Metro Louisville Downtown Development Overlay District. The purpose of this project was to investigate and document the remains of the Lewis Pottery site (15Jf658) and associated deposits in order to understand the chronology of the pottery's development and operation, particularly as related to one of this nation's first attempts to establish a viable domestic fine dinnerware industry to compete with the British who dominated the market.

Field work was carried out from July 14, 2010 to July 30, 2010 and included mechanical stripping and hand excavation of units and features identified. The project was conducted under the supervision of M. Jay Stottman. He was assisted in the field by Lori Stahlgren, Kim McBride, Stephen McBride, Matt Prybylski, Diane Hampe, Eden Ransdell, and Aaron Nusz. Volunteer workers included Lydia Biggs, Erica Winn, Gary Stradling, Diana Stradling, John Luker, and Cameron Luker. The bulk of work during excavations was done by the University of Louisville Archaeological Field School, which included Ron Charles, Rob Winn, Teresa Lee, Jaclyn Hurley, Steve Abell, Derek Gregory, and Andrea Hoell. The artifacts were analyzed by Becky Temple, V. Camille Westmont, and M. Jay Stottman. Hayward Wilkerson and Donna Galbreath produced the report graphics. The mechanical excavator was operated by Melvin Carillo.

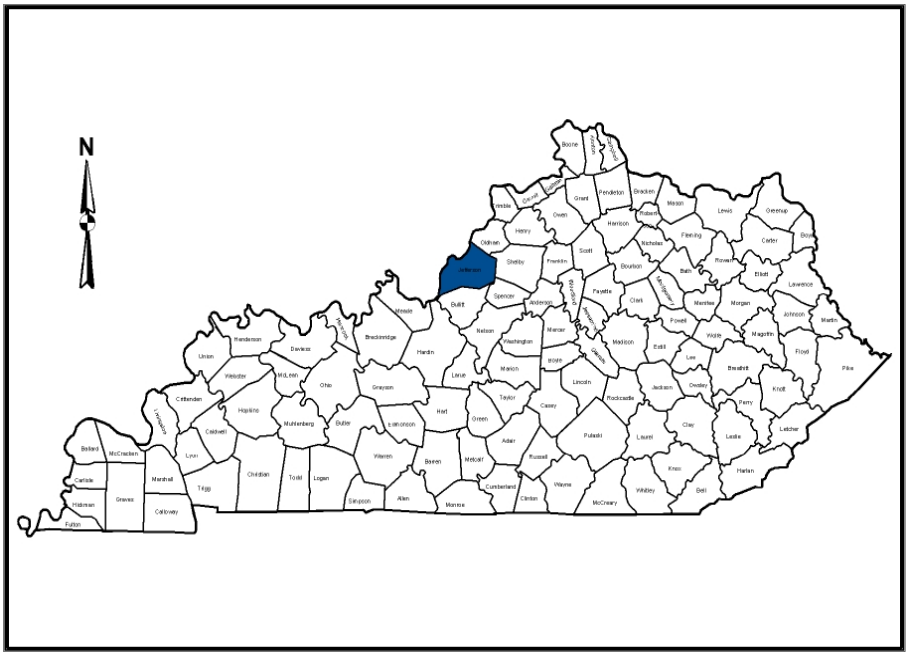


Figure 1-1. Location of Jefferson County, Kentucky.

The Lewis Pottery Site is located on a lot bounded by Main Street on the north, Jackson Street on the east, and an alley on the south (Figure 1-2). The investigations conducted at the Lewis Pottery site were focused intact stratified pottery waster deposits located in a parking lot and the former location of a large building within the project area (Figure 1.2). As a result of the investigations two features and 19 intact strata were identified. Features that were investigated included two privies associated with pottery workers. Artifacts recovered during the investigations ranged in date from the early nineteenth to early twentieth centuries, with most being associated with the pottery occupation of the site from 1815 to 1855. The artifacts included mostly items associated with the production of pottery at the site, such as ceramic product wasters and kiln furniture. A lesser amount of domestic artifacts, such as non-local dishes, and container glass also were recovered, as well as faunal remains. Artifacts related to structures included a large amount of uncollected brick with smaller amounts of window glass and nails which were collected.

As a result of this project, the historic development and chronology of the Lewis Pottery was documented. During the early nineteenth century, Jacob Lewis attempted to produce fine whiteware dishes at his stoneware pottery. He brought in Jabez Vodrey an experienced whiteware potter from Staffordshire, England to experiment with American pottery materials and techniques for adaptation to the production of whiteware. The results of this investigation determined that one of the first efforts to produce viable whitewares in America took place at the site in the late 1820s, leading to improvements to the pottery facility in the 1830s, and the production of marketable wares in the late 1830s.

Whiteware production took place simultaneously with typical stoneware production, which helped to keep the pottery financial viable despite the unprofitability of the whiteware. Production of whiteware continued into the early 1840s after Lewis and Vodrey left the business. It appears that George Doane and former Lewis potters John and Fredrick Hancock continued the practice for a short time utilizing preexisting whiteware production equipment.

The archaeological investigations at the Lewis Pottery have helped tell the story of the entrepreneurial spirit of Jacob Lewis and his contemporaries in Louisville during the early nineteenth century and of Louisville's role in the development of America's ceramic industry. The challenges faced by Lewis and his colleagues and the importance of their efforts could not be told without the use of archaeological evidence.

This report is organized as follows. After this introduction background information about Louisville's environment, the history of the Lewis Pottery, a discussion about the importance of fine dinnerwares, and a description of previous archaeological investigations in Louisville and of the Lewis Pottery site are presented in Chapter 2. Chapter 3 describes the field, lab, and analytical methods used for this study. A description of the artifacts recovered during the excavations is presented in Chapter 4. The results of the excavations including descriptions and interpretations of the deposits identified are presented in Chapter 5. Chapter 6 presents an analysis of the stratigraphy of the site, interpretations of

the archaeological results, and the story of the Lewis Pottery and American whiteware. The conclusions of the project are presented in Chapter 7.

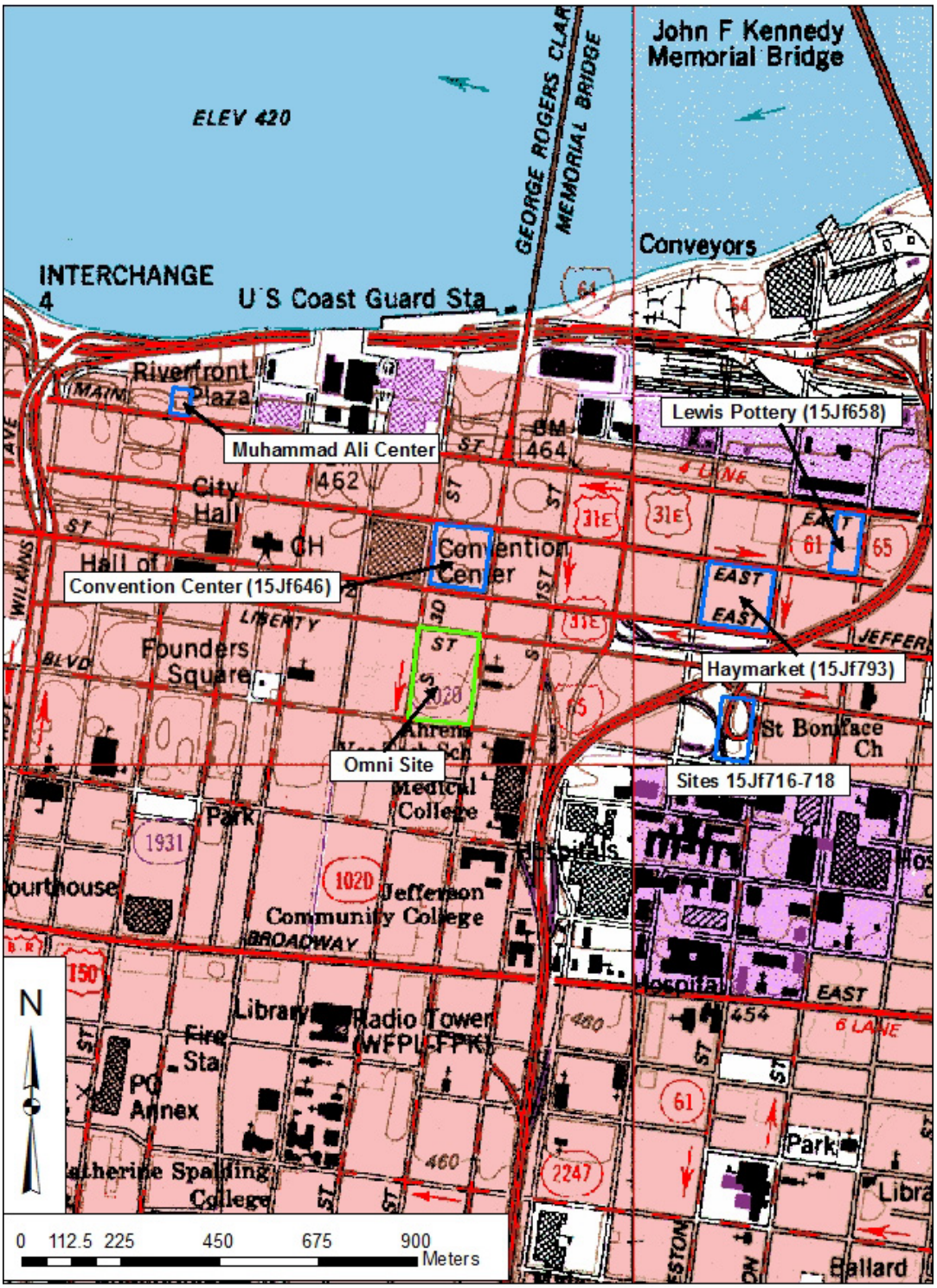


Figure 1-2. U.S.G.S. Topographic Map Showing the Location of the Pottery Site and Other Sites Recorded Nearby (Jeffersonville IN Quad.).

CHAPTER 2:
BACKGROUND

ENVIRONMENTAL BACKGROUND

Physiography

The Lewis Pottery site is situated in the Ohio River Alluvial Lowland in downtown Louisville. Several streams, the most important of which is the Ohio River dominate the physiography of the Ohio River Alluvial Lowland area. Linear terraces that parallel the Ohio River characterize the area. Elevations in this area range from 124 m on the first terrace to 137 m on the third.

The Lewis Pottery site is located on the broad extent of the alluvial plain, where there are numerous north-south linear rises of less than 4 m. These rises formed as the Ohio River moved to the northwest degrading the Indiana shore and aggrading to the east. Several creeks that flow through old channels of the Ohio River have gradually formed their own small peneplains (Powell 1970). The land is essentially flat and poorly drained with standing water in low areas during much of the winter and spring. To the west, the narrow floodplain is well-drained (Gunn 1968; Powell 1970) by the Salt River.

Geology

The geologic structure of Louisville is comprised of underlying bedrock of New Albany shale of Devonian Age, and Louisville limestone of Ordovician and Silurian Age (Kepferle 1974). Erosion of these underlying bedrocks created the flat poorly drained outwash around Louisville on the edge of the Outer Bluegrass Region known as the Scottsville Lowland (McFarlan 1943; Powell 1970). The overlying geologic deposits are a product of the Quaternary glaciation. Illinoisan glacial drift combined with Wisconsin outwash sediments of silt and gravel have formed an overburden of over 30 m in thickness.

Numerous finds of Wisconsin age fauna have been documented in the floodplain, most commonly mammoth and mastodons. There are at least six known finds at depths ranging from 3 to 8 m. They have been found in Meade and Jefferson counties in Kentucky, and Floyd, Clark and Harrison counties in Indiana. These deposits are overlain with alluvium consisting of silt, clay, sand, and gravel from the Holocene epoch.

Soils

The soils associated with the site are consistent with glacial and hydraulic activity. In this area they consist of a combination of alluvial clays, silts, and gravels of the Wheeler-Weinbach-Huntington Association (Zimmerman 1966). In the lower portions of the site compacted silt clays are present from 1 m to 2 m below the surface. These soils account for the presence of standing water during certain seasons (Zimmerman 1966). Soils below 2 m consist of sandy clays and sand. Gravels within the Wheeler-Weinbach-Huntington Association tend be deeply buried, generally below 3 m. Because these gravels

are so deeply buried, the presence of water-rolled glacial erratic's in the upper zones is almost nonexistent.

Climate

The climate in the Louisville area is characterized by relatively mild winters and warm summers. The growing season averages above 190 days. Mean annual rainfall is approximately 102 cm. Temperature variability is seasonal between 0 and 100 degrees Fahrenheit. Mean temperature in July is 78 degrees Fahrenheit and in January 35 degrees Fahrenheit (Zimmerman 1966).

Flora and Fauna

On tributaries of the Ohio River there are stands of cottonwoods, sycamore, soft maple, black willow, gum, and elm. On inland terraces white oak, black oak, yellow popular, hickory, beech, and hard maple predominate. The drier portions of southwestern Jefferson County contain stands of maple, oak, sweetgum, tupelo, sassafras, black locust, and ash. Early Euro-American explorers reported that the Louisville area was "well timbered, producing large trees of many kinds, and to be exceeded by no country in variety" (Filson 1784). In 1784, Filson reported the presence of the sugar tree, honey locust, coffee tree, "pappa-tree," black mulberry, wild cherry, and buckeye (Filson 1784). Numerous grasses and perennials, such as smartweed, goosefoot, and amaranth, are found in areas that are not farmed (Gunn 1968). Filson and others have commented on the abundance of great fields of cane, which grew to a height of 1.0 to 3.5 m (Filson 1784).

It is known in the past that the Louisville area supported a large and diverse faunal population with both floodplain and upland species represented. In modern times, the faunal population of the area has been substantially reduced with most species, such as bison, wolf, and large cats, being absent. Lower populations of eastern cottontail rabbits, groundhogs, opossum, and gray squirrel have been noted. One exception is the white-tailed deer, which has made a dramatic comeback in the area. Data from archaeological sites indicate that white-tailed deer, raccoon, wolf, other large mammals, and land birds, such as turkey and passenger pigeon, were well-represented in the Ohio Valley prehistorically.

The bird population presently includes prehistorically utilized species, such as ducks (mallard and pintail), grebe, teal, quail, and morning dove. Smaller species of mammals and reptiles are also present. As historic settlement of the area increased, common domesticated animals, like cow, pig, chicken, and sheep, became reliable food resources. Beast of burden, such as, oxen, horses, mules, and asses, also were introduced at this time.

Filson reported that in 1784 the faunal inventory included:

> The land fowls are turkeys, which are very frequent, pheasants, partridges, and ravens: The perraquet, a bird every way resembling a parrot, but much smaller; the ivory-bill wood-cock, of a whitish color with a small white

> plume, flies screaming exceeding sharp. There are still to be found many deer, elks and bears, within the settlement, and many more on the borders of it. There are also panthers, wildcats, and wolves. The waters have plenty of beavers, otters, minks, and muskrats: Nor are the animals common to other parts wanting, such as foxes, rabbits, squirrels, raccoons, ground-hogs, pole-cats, and opossums (Filson 1784:26-28).

The Ohio River was known in the past to support a wide variety of aquatic life. Filson described the species of fish he encountered during the late eighteenth century.

> The fish common to the waters of the Ohio are the buffalo fish, of a large size, and the catfish sometimes exceeding one hundred weight. Salmons have been taken in Kentucke weighing thirty weight. The mullet, rock, perch, garfish, and the eel, are here in plenty. It is said that there are no trout in the western waters. Suckers, sunfish, and other hook-fish, are abundant; but no shad, or herrings. We may suppose with a degree of certainty, that there were large subterraneous aqueducts stored with fish, from which fine springs arise in many parts producing fine hook-fish in variety. On these waters, and especially on the Ohio, the geese and ducks are amazingly numerous (Filson 1784:26).

Shellfish, primarily freshwater mussels, were used by Native American populations. They were also exploited during the historic period for the production of shell buttons (Claassen 1994). Species that were present in 1819 were *Strepoma angularis* and *S. concolor*. *Rafinesque* also listed *Ellipstoma gibbosa* and *E. rugosa*. In 1863, three species: *Lithasia obovata*; *Pleurcera canaliculatum*; and *Anculosa praerosa* were present (Goodrich 1929). *Anculosa trileneata* is also reported (Goodrich 1929).

HISTORICAL BACKGROUND

Jefferson County and Louisville

Jefferson County was created in 1780 as one of Kentucky's three original counties. At that time, Kentucky was still a part of Virginia. The county's namesake is derived from Thomas Jefferson, then governor of Virginia (Neary 2000). The county is located in north central Kentucky along the Ohio River. This section of the river includes a series of rapids known as the Falls. The Falls area was first explored by Euro-Americans in the 1760s (Thomas 1971; Yater 1987).

Louisville was founded in 1778, during George Rogers Clark's expedition against the British in the Northwest Territories (Neary 2000; Thomas 1971; Yater 1987). Clark's militia accompanied a small group of settlers from Pittsburgh to Kentucky. The group set-up camp on a small island at the Falls of the Ohio River, before Clark and his men left to battle the British. The island was named Corn Island and was home to the settlers for several months. Later in 1778, the settlers moved to the Kentucky shore and laid the

foundation for a town called Louisville, which was named in honor of King Louis XVI of France, who had just pledged France's support to America during the Revolutionary War. In 1780, Louisville was granted a town charter by the Commonwealth of Virginia (Yater 1987).

Louisville's growth was very slow for the first 30 years of its existence. It was a rather unhealthy place to live due to the many ponds that dotted the landscape. Its status as one of the western most American settlements left it vulnerable to Indian attacks, further inhibiting its growth. Louisville would not see significant growth until the Louisiana Territory was purchased from France (Yater 1987).

By 1803, the United States controlled the rivers between Pittsburgh and New Orleans. With the invention of the steamboat, the Ohio River became one of America's most important shipping lanes. The Falls were a natural obstacle, which made traversing the entire Ohio River nearly impossible by boat. Most travelers and cargo would disembark at Louisville, above the Falls, and put in below the Falls at Portland (Freda 1996). The Falls made Louisville one of the busiest ports in the country. During the period between 1810 and 1840, Louisville grew rapidly. By 1830, it was the largest city in Kentucky with a population of over 11,000 (Yater 1987).

In the 1850s, Louisville strengthened its position as a mercantile center with the establishment of the Louisville and Nashville Railroad. Even the Civil War could not slow Louisville's growth. The city was fortunately never attacked and profited handsomely from the war. It served as a base of operations and a supply distribution center for the Union Army. Local businesses and manufacturers expanded to supply the needs of war. After the war, the shipping industry began to slow and manufacturing took over spurred by the profits of war. By 1870, Louisville was a major manufacturing center and its population soared to over 100,000 (Yater 1987). The establishment of streetcar lines led to rapid suburban growth during the late 1800s and early 1900s, as the central core of Louisville became primarily commercial. Throughout the early 1900s, Louisville would experience times of prosperity and depression that paralleled that of the Nation. Surviving the two world wars and a devastating flood in 1937, Louisville's growth leveled in the mid-1900s and it has remained one of America's many mid-sized cities.

The Lewis Pottery and Jacob Lewis

The site that would come to house the Lewis Pottery is located at the southwest corner of Main and Jackson Street. The original pottery landholding included lot 76 and half of lot 77 in Preston's Enlargement on the Louisville City plat (Figure 2-1). Preston's Enlargement was part of 1,000 acres at the Falls of the Ohio River granted to Col. William Preston by the British Governor of Virginia in 1773 for his service during the French and Indian War. During the Revolution Preston sided with the Americans which allowed him to keep his land holdings in Kentucky. Preston never visited his land in Kentucky, but his sons William and Francis and daughter Sara inherited the land after his death in 1783 (Osborn 2008). By 1800, Preston's 1,000 acres was situated on the southeast edge of town

and the Preston children platted lots known as Preston's Enlargement, which extended east from the original town plan at Brook Street (Figure 2-1).

Figure 2-1. The Location of Lot 76 on the 1831 Map of Louisville (Hobbs 1831).

The sale of lots had begun by 1810, and they were quickly purchased by speculators. Jeremiah Diller purchased Lot 77 directly from Francis Preston in 1811 from which he operated a horse driven sawmill for his cabinetmaking business (Deed Book 10:467). Later he purchased the adjacent Lot 76 in 1814 from land speculator Temple Gwathmey (Deed Book 10:466). That same year Diller sold Lot 76 and the east half of Lot 77 to George Evringer (Deed Book 10:470) (Table 2-1).

Table 2-1. Chain of Title for the Lewis Pottery Property.

Date	Grantor	Grantee	Description	Reference
1811	Francis Preston	Jeremiah Diller	Lot 77	DB 10:467
1814	Temple Gwathmey	Jeremiah Diller	Lot 76	DB 10:466
1814	Jeremiah Diller	George Evringer	Lot 76 ½ of Lot 77	DB 10:470
1815	George Evringer	Jacob Lewis	Lot 76 ½ of Lot 77	DB I:119
1819	Jacob Lewis	William Zane	Lot 76 ½ of Lot 77	DB Q:251
1820	William Zane	John Dover	100 x 130 Lot 76	DB S:124
1822	William Zane	Lewis Children	Lot 76 ½ of Lot 77 w/exception	DB U:485
1824	Lewis Children	Mary Shallcross	Lot 76 ½ of Lot 77 w/exception	DB W:384
1867	W.S. Shallcross	Henry Beebee	52 x 119 ft. Lot 76	DB 135:16
1888	Henry Beebee	Philip Schneider	52 x 119 ft. Lot 76	DB 315:596

Jacob Lewis purchased Lots 76 and half of Lot 77 from Evringer in 1815 (Table 2-1) (Deed Book 1:119). In 1815, Louisville was just a small settlement on the verge of becoming a boomtown. Just four years earlier, the first steam powered boat on the Ohio River had astounded residents by sailing upstream, cementing Louisville's identity as a port. Its population had nearly doubled in that time, as many people sought to establish business in this soon to be city. Louisville was filled with merchants, craftsmen, and entrepreneurs seeking to make their fortune by being in the right place at the right time (Yater 1987). One of those people was Jacob Lewis.

Although not a potter himself, Lewis had learned the pottery business by hiring potters to work his stoneware pottery in Wheeling, West Virginia. He brought that knowledge with him when he moved to Kentucky just outside of Louisville at the mouth of Harrod's Creek. There he established a stoneware pottery on land leased by his father-in-law William Zane. In 1815, Lewis left Harrod's Creek to establish Louisville's first pottery on land he purchased at the corner of Jackson and Main Streets then on the edge of town (Figure 2-1). Lewis saw opportunity in Louisville's quickly growing population and its importance as a port, seeking to supply its residents and points west with quality stoneware pottery (Stradling and Stradling 2001). Ever the entrepreneur, Lewis' vision for opportunity did not end with utilitarian stoneware, he joined several other American potters in the effort to establish a domestic fine dinnerware industry to compete with the British who dominated dish market. Lewis' effort to make fine dinnerware made Louisville one of the first places in the United States to make such wares.

Shortly after purchasing the property in Louisville, Lewis partnered with John Dover and constructed the pottery. By October 1817, advertisements for Louisville's first stoneware pottery began circulating. The Lewis and Dover Pottery quickly faltered, however, as the financial Panic of 1819 forced American industries out of business (G. Stradling 1994, personal communication). The property went into foreclosure and was purchased by Lewis' father-in-law William Zane in January 1819 (Deed Book Q:251) (Table 2-1). Despite this setback, Lewis and Dover continued manufacturing stoneware pottery at the site.

By 1820, Zane had sold Dover a half-interest in the property (Deed Book S:124). At the time of Dover's receipt of his half interest, the pottery had developed much of the property with buildings and equipment. The kilns and manufacturing areas were located in the southwestern corner of the property, with the potters living in simple houses in the southeastern corner, fronting Jackson Street. Lewis had a brick house and a pottery store along the northern side of the property fronting Main Street (Figure 2-2) (Deed Book S:124). Despite John Dover's long-standing business relationship with Lewis, he sold his interest to Isaac Dover in 1822 and left Louisville. Isaac's holding of the property was short lived, and later in 1823 Zane transferred Isaac Dover's holding to steamboat captain John Shallcross, Zane's granddaughter's husband and Lewis' son-in-law. Shallcross constructed a frame house on the property along Main Street the same year (G. Stradling 2010, personal communication; Deed Book W:384). Also in 1822, Zane deeded his half-interest to Lewis's four children, including Jane Lewis, Alice Lewis, Thomas Lewis, and Mary Shallcross, wife of John Shallcross (Deed Book U:485). Two years later in 1824, the Lewis children sold the property to Mary Shallcross (Table 2-1) (Deed Book W:384). At that time John and Mary Shallcross had acquired all interest in the pottery property.

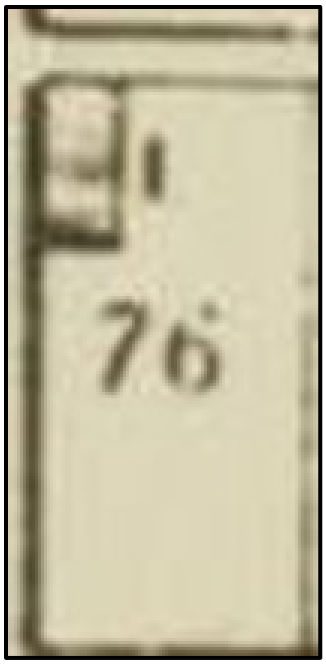
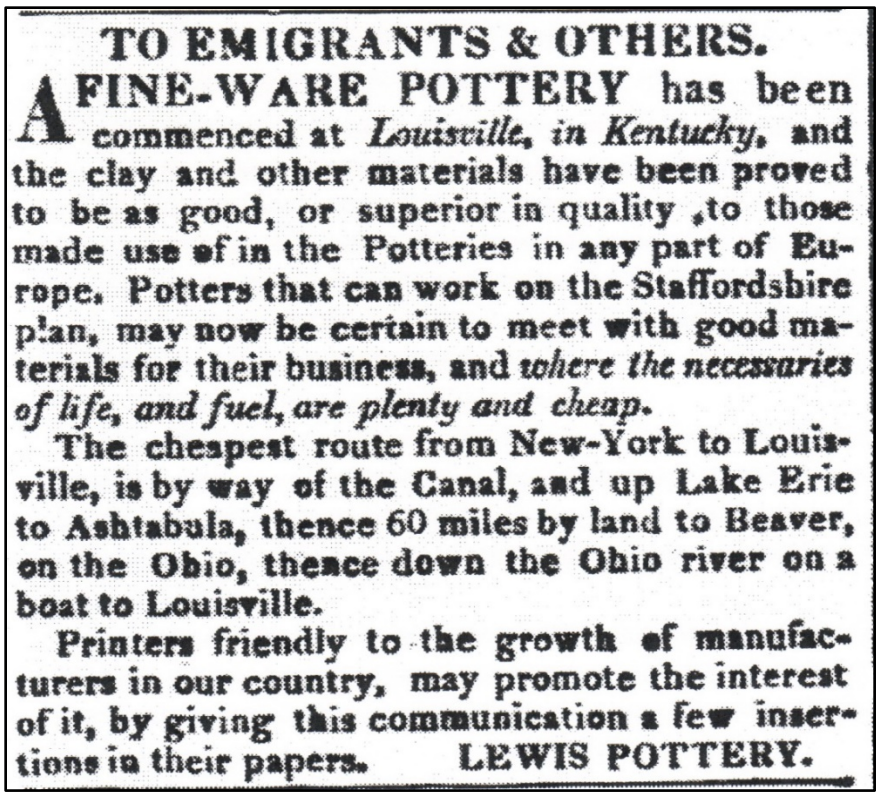


Figure 2-2. Lot 76 Showing the Main Pottery Building (Hobbs 1831).

Jacob Lewis' effort to make fine whiteware dinnerware in his Louisville pottery began in 1823 when he believed that he had found a good source of clay. He sent a sample of the clay to England to be tested. It was not until 1825 that the results of the test came back to Lewis as favorable, however he did not move to make an attempt at making whiteware at that time. In 1828, Lewis found what he believed to be an even better source of kaolin clay in Missouri, which he again had tested in England with favorable results. This time, Lewis took steps to establish whiteware production at his pottery. He approached William Frost and Jabez Vodrey, former English potters working in Pittsburgh, and convinced them to move to Louisville to head his effort. In 1829, The Lewis Pottery Company for the purpose of manufacturing whiteware was incorporated with the Kentucky state legislature (Stradling and Stradling 2001).

The manufacture of whiteware was slow to begin at the Lewis Pottery, as Frost and Vodrey were experimenting with the clay and experienced some setbacks. Lewis had to reorganize the company and secure more investors. With an influx of funds, Lewis set out to assemble the parts necessary to create a whiteware pottery like those in Staffordshire, England under the leadership of Frost and Vodrey. He placed advertisements with several east coast newspapers soliciting potters experienced in the Staffordshire method of producing whiteware to come work at his pottery (Figure 2-3). By 1832, the Lewis Pottery Company made its most ambitious investment in the effort to make whiteware with the construction of a glost kiln, a type of kiln specifically designed for firing fine wares (Westmont 2012). Up to this point, Lewis' stoneware equipment and kilns were being used for the whiteware experiments.



TO EMIGRANTS & OTHERS.

A FINE-WARE POTTERY has been commenced at *Louisville, in Kentucky*, and the clay and other materials have been proved to be as good, or superior in quality ,to those made use of in the Potteries in any part of Europe. Potters that can work on the Staffordshire plan, may now be certain to meet with good materials for their business, and *where the necessaries of life, and fuel, are plenty and cheap.*

The cheapest route from New-York to Louisville, is by way of the Canal, and up Lake Erie to Ashtabula, thence 60 miles by land to Beaver, on the Ohio, thence down the Ohio river on a boat to Louisville.

Printers friendly to the growth of manufacturers in our country, may promote the interest of it, by giving this communication a few insertions in their papers. LEWIS POTTERY.

Figure 2-3. Advertisement for the Lewis Pottery in a Boston Newspaper 1830.

Throughout the attempts to make whiteware, the Lewis Pottery continued to make stoneware and other utilitarian wares, which likely supported the company financially. The financial panic of 1837 was devastating for many industries and businesses in America and the Lewis Pottery suffered greatly during this period as Lewis lost most of his investors. By 1839, Lewis was out of investors and credit. Jabez Vodrey left Louisville to lead the Indiana Pottery Company in Troy, Indiana started three years earlier by Louisville businessman Samuel Casseday and English potter James Clews. The Lewis Pottery was effectively dissolved as Lewis left Louisville for Hickman in Western Kentucky never to work in the pottery industry again (Stradling and Stradling 2001).

Following the departures of Lewis and Vodrey from the Lewis Pottery, the history of the site is less well-documented. Potteries in the beginning of the 19th century west of the Alleghenies were usually run on a lease arrangement, often with the arrangement that the name of the owner, not the potter, appear on the produced wares. It is likely that Lewis' children and later John and Mary Shallcross leased the pottery buildings and equipment to other potters. An advertisement dated 1836 lists both Lewis' Pottery and Vodrey's Pottery, indicating that whoever had moved into the pottery retained the name. However, the identities of some of the successive potters at that location are known.

George Doane leased the pottery as early as 1840, employing former Lewis potters John and Frederick Hancock. By 1842, however, both Hancocks had moved out of Louisville (G. Stradling 1997, personal communication). Following the Hancocks was D. Melcher, who appears in a city directory in 1843. D. Melcher is followed by George and

Anton Melcher and Martin Doll, who leased the property from Doane for a period of one year beginning in 1848. George and Anton Melcher had moved their pottery to another part of the city by 1851 (G. Stradling 2009, personal communication). Doane maintained a pottery at that location until 1855 where he made chimney tops and sold imported wares (G. Stradling 2009, personal communication (Figure 2-4). However, these items were likely made by potters under contract, similar to Hancock, Melcher, and Doll. The identities of these potters are unknown. It appears that pottery production at the old Lewis Pottery facility ended with Doane's tenure. Jacob Lewis died in Hickman, Kentucky the following year in 1856.

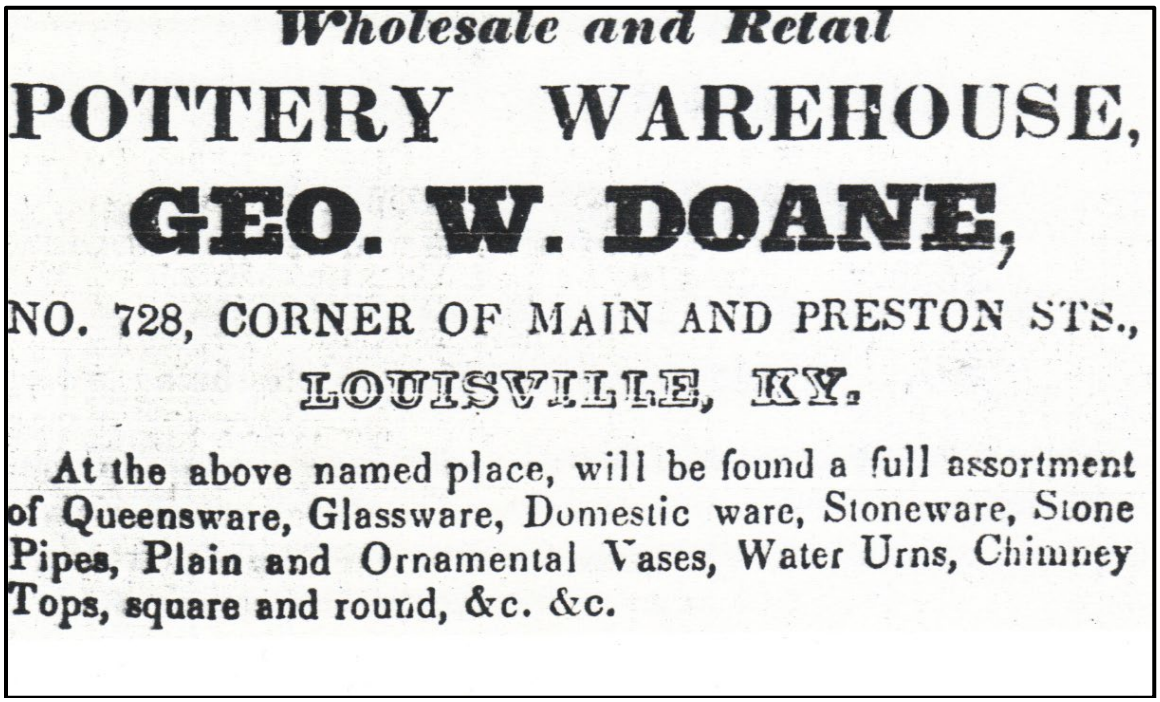


Figure 2-4. Advertisement for George Doane's Pottery in the 1848 City Directory.

Throughout this later period of the pottery's operation, John Shallcross and his wife Mary owned the property and pottery facilities. Shallcross was a steamboat captain by trade, but like many people in Louisville during the 1830s and 1840s he was able to convert his earnings into investments in the growing city of Louisville, such as the Lewis Pottery. According to tax records, like many others who made their fortune during this period, Shallcross had acquired several other properties in Louisville and enslaved as many as six people by the late 1840s which contributed greatly to his wealth (Table 2-2). He continued to profit from the pottery by leasing out the pottery equipment and facilities throughout the 1840s into the mid-1850s.

Table 2-2. Louisville Tax List for Persons Associated with the Pottery Property.

Date/Name	Description	Value Ground	Value Improv.	Tythes W;B	Slaves	Value Slaves	Total
1834							
Lewis, Jacob					1	300	$300
Lewis, Jane D.	Cor. Main & Jackson Lot 76	1,050	100				$1,150
Lewis, Alice F.	Main bet. Jack. & Preston Lot 77	1,600	800				$2,200
Lewis, James D	Jackson & Cor. of Alley Lot 76	1,000	1,000				$2,000
1835							
Lewis, Jacob					1	350	$350
Lewis, A.F.	56ft. S.Main bet. Pres. & Jack.	2,240	800				$3,040
Lewis, Thomas D.	50ft. W. Jack. 130ft. back Lot 76	750					
do	do bet. Main & Jack. Lot 76	750	1,000				$2,500
Lewis, J.D.	42ft. S.Main bet. Jack. & Pres Lot 76	1,680	100				$1,780
1836							
Lewis, Jacob Gard.	197x105ft. Cor. Main & Jack.	7,880	200	1;0	1	300	$8,380
to Lewis heirs&such	100x105ft. Jack. & W. Market						
1837							
Lewis, Jacob	157x210 ft. Main Cor. of Jackson	9,420	1,000	1;0	1	400	$10,820
for Children							
1838							
Shallcross & others	157x205 ft. on Cor. of Main & Jackson	12,560	1,000	1;0			$13,560
Vodrey, Jabez	Main Near Jackson						
1840							
Shallcross & others	157x205 ft. Cor. Main & Jack.	10,990	1,000				$12,000
1841							
Shallcross & others	157x205 ft. Cor. Main & Jack.	7,065	1,000				$8,065
G.W. Doane				1;0			$1.50
1842							
Capt. John Shallcross	57x204ft. S.Main b. Jack. & Hand.	1,710	600				
	78x107ft. Jack. b. Main & Market	1,170					$3,480
1843							
Shallcross, John	same as 1842 (two properties)	same	same		1	100	$100
for 1842(omitted)	52.5x204ft. S.S. Main & Jackson	1,312	500				$1,812
for 1843	52.5x204ft. S.S. Main & Jackson	1,312	500				
G.W. Doane	N.E. Cor. Main & Preston (res.)			1;1			
1844							
Shallcross, John	57x126ft. S.S. Main, Pres. and Jack	1,710		1;2	4	800	$2,530
	78x107ft. Jack. to Main & Market	1,170					
G.W. Doane	Main, Hancock and Clay			1;1	1	300	$300
Melcher, John - Peter							
1846							
Shallcross, John	29.5x204ft. N.S. Jeff., 1 & 2(res.)	1,770	1,000	1;2	4	1,000	
No Doane	52.5x204ft. S.S. Main, Jack&Han.	1,575	400				
No Melcher	78x107ft. W.S. Jack, Main&Mark.	1,560					
	26 1/4x105ft. Mouror, 10&11	184	400				
	57.5x126ft. S.S. Main, Pres&Jack.	1,725					
	4.5 acres E. Shelby & S.S. Mark	8,000?					
							$17,714
1847							
Shallcross, John	29.5x204ft. N.S. Jeff., 1 & 2(res.)	1,770	1,000	1;2	4	1,000	
	52.5x204ft. S.S. Main, Jack&Han.	1,575	400				
	78x107ft. W.S. Jack, Main&Mark.	1,560	100				
	57.5x126ft. S.S. Main, Pres&Jack.	1,725	400				
	4.5 acres E. Shelby & S.S. Mark.						$17,530
G.W. Doane				1			
(Res.-N. Main							
Floyd&Preston)							

Table 2-2. Continued.

Date/Name	Description	Value Ground	Value Improv.	Tythes W;B	Slaves	Value Slaves	Total
1848							
Shallcross, John	29.5x204ft. N.S. Jeff., 1 & 2(res.)	1,770	1,000	1;3	4	1,000	
	52.5x204ft. S.S. Main, Jack&Han.	1,575	400				
	78x107ft. W.S. Jack, Main&Mark.	1,560	200				
	57.5x126ft. S.S. Main, Pres&Jack.	1,725	400				
	4.5 acres E. Shelby & S.S. Mark.						$20,430
G.W. Doane (Res.-Corner Main &Preston)				1			
Melcher, Antone (Res.-N.Market, Floyd & Preston)							
1850							
Shallcross, John	29.5x204ft. N.S. Jeff., 1 & 2(res.)	1,770	1,000	1:3	6	2,000	
	52.5x204ft. S.S. Main, Jack&Han.	1,575	400				
	78x107ft. W.S. Jack, Main&Mark.	1,560	200				
	57.5x126ft. S.S. Main, Pres&Jack.	1,725	400				
	4.5 acres E. Shelby & S.S. Mark.						$26,650
G.W. Doane (Res.-E. Preston, Main & Market)				1			
1851							
Shallcross, John	29.5x204ft. N.S. Jeff., 1 & 2(res.)	1,770	1,000	1:3	6	2,000	
	52.5x204ft. S.S. Main, Jack&Han.	1,575	400				
	78x107ft. W.S. Jack, Main&Mark.	1,560	200				
	57.5x126ft. S.S. Main, Pres&Jack.	1,725	400				
	3 acres Main & Mark., Woodlawn	15,000	0				
	1/4 acres Saw mill lot	500	0				
G.W. Doane (Res.-E. Preston, Main & Market)				1			$25,830
1852							
Shallcross, John	29.5x204ft. N.S. Jeff., 1 & 2(res.)	2,240	1,500	1;0	6	2,000	
	52.5x204ft. S.S. Main, Jack&Han.	1,716	600				
	78x107ft. W.S. Jack, Main&Mark.	1,736	200				
	57.5x126ft. S.S. Main, Pres&Jack.	2,587	400				
	3 acres Main & Mark., Woodlawn	15,500	0				
	1/4 acres Saw mill lot	600	0				
No Doane Listed							$29,079
1854							
Shallcross, John	29.5x204ft. N.S. Jeff., 1 & 2(res.)	2,900	2,500	1;0	6	2,000	
	52.5x204ft. S.S. Main, Jack&Han.	2,100	600				
	78x107ft. W.S. Jack, Main&Mark.	1,900	---				
	57.5x126ft. S.S. Main, Pres&Jack.	2,875	400				
	3 acres Main & Mark., Woodlawn	15,000	0				
	1/4 acres Saw mill lot	600	0				
No Doane Listed							$30,875

Tythes (white;black)
*Free Blacks were also listed, but none of the people discussed here were listed with any.
*G.W. Doane was only listed with 1.50 in 1841.
*John and Peter Melcher were listed in 1844, but nothing was put in the columns for them.
*The 1842 tax list omitted the pottery property for John Shallcross, but corrected it the following year by taxing him twice.
*The tax list for 1839, 1845, 1849, 1853 was not available.

The Shallcross family owned the Lewis Pottery property until the late 1860s when W.S. Shallcross began dividing up the property and scuttling the abandoned pottery. A large portion of the property, including most of Lot 76 was sold to Henry Beebee in 1867 (Deed Book 135:16). BeeBee used the main pottery retail building as commercial property into the 1870s before selling it to Philip Schneider in 1888 (Deed Book 315:596). By 1876, the rear portion of the former pottery property had been subdivided into four house lots fronting Jackson Street, which were surrounded with a new public alley (Figure 2-5). It is

clear that by the mid-1870s any remaining remnants of the pottery had been removed from the property and it had been redeveloped for retail and residential use. This use of the property would remain well into the early 1900s, when a large brick commercial building occupied most of property.

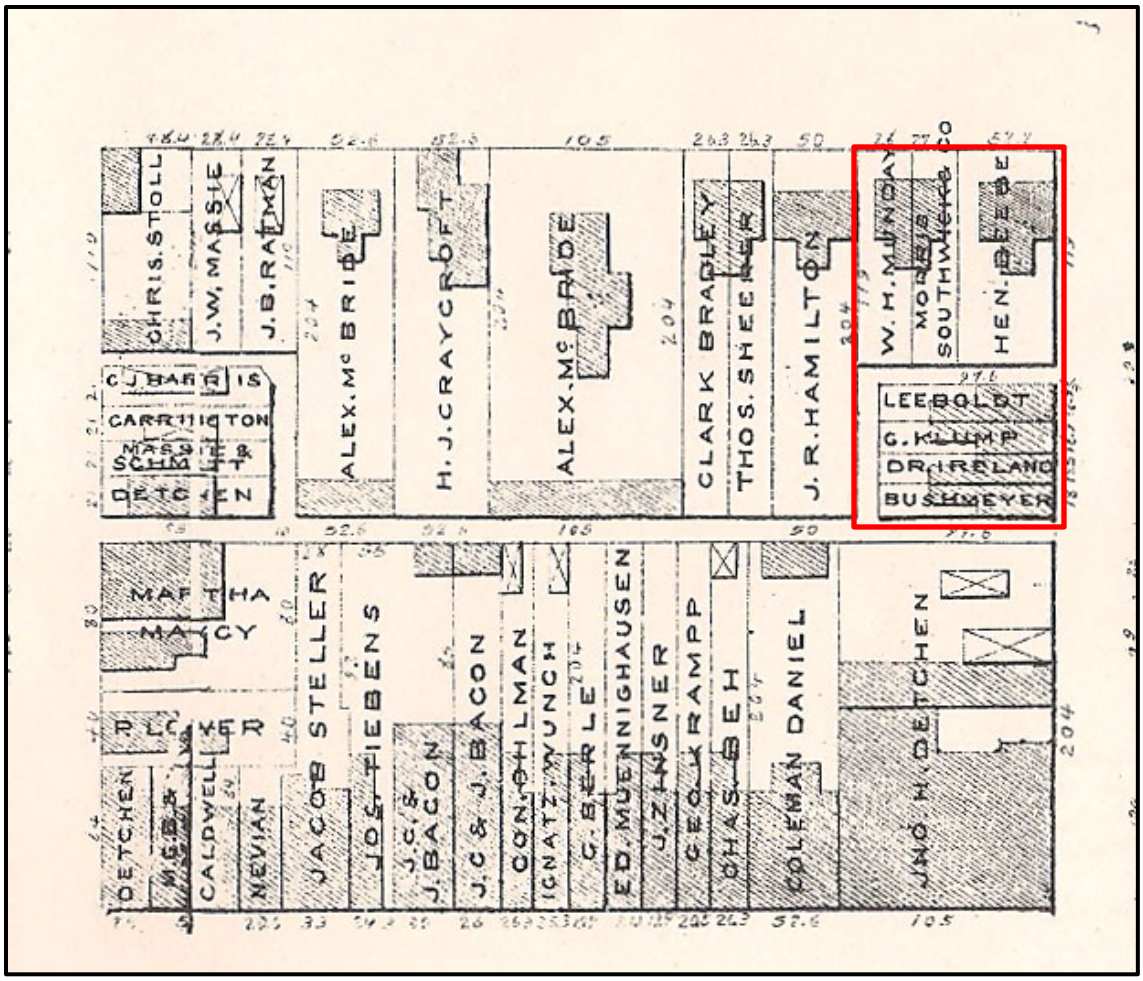


Figure 2-5. The Location of the Lewis Pottery Site on the 1876 Map (Louisville Loan and Abstract Co. 1876).

The History and Importance of Fine Dinnerware Manufacture

When viewed from our present time and context, it is hard to understand the significance of dishes within American culture and economy. In the day of plastic and paper plates it is hard to imagine that dishes had any meaning to people in the past, but they did. Dining etiquette and the equipment used in dining ritual was usually reserved for the wealthy at the beginning of the nineteenth century (Schatz 2014). The possession of expensive dinnerware and the knowledge of using it was a status symbol for the upper class of English and American society. Fine Chinese porcelain dishes were highly desired by the wealthy and those who wanted to appear wealthy. With an abundance of high-quality

white clay and thousands of years of ceramic knowledge, the Chinese dominated the fine dinnerware market and charged a premium price to export these wares (Figure 2-6). The emerging European and American middle class sought less expensive copies of Chinese porcelain so that they too could be like the upper classes. The demand for inexpensive dishes was promptly filled by English potters who copied fine Chinese porcelain dishes and flooded the American market, thus establishing their dominance of the trade for nearly 100 years (Miller 1980; 1991).

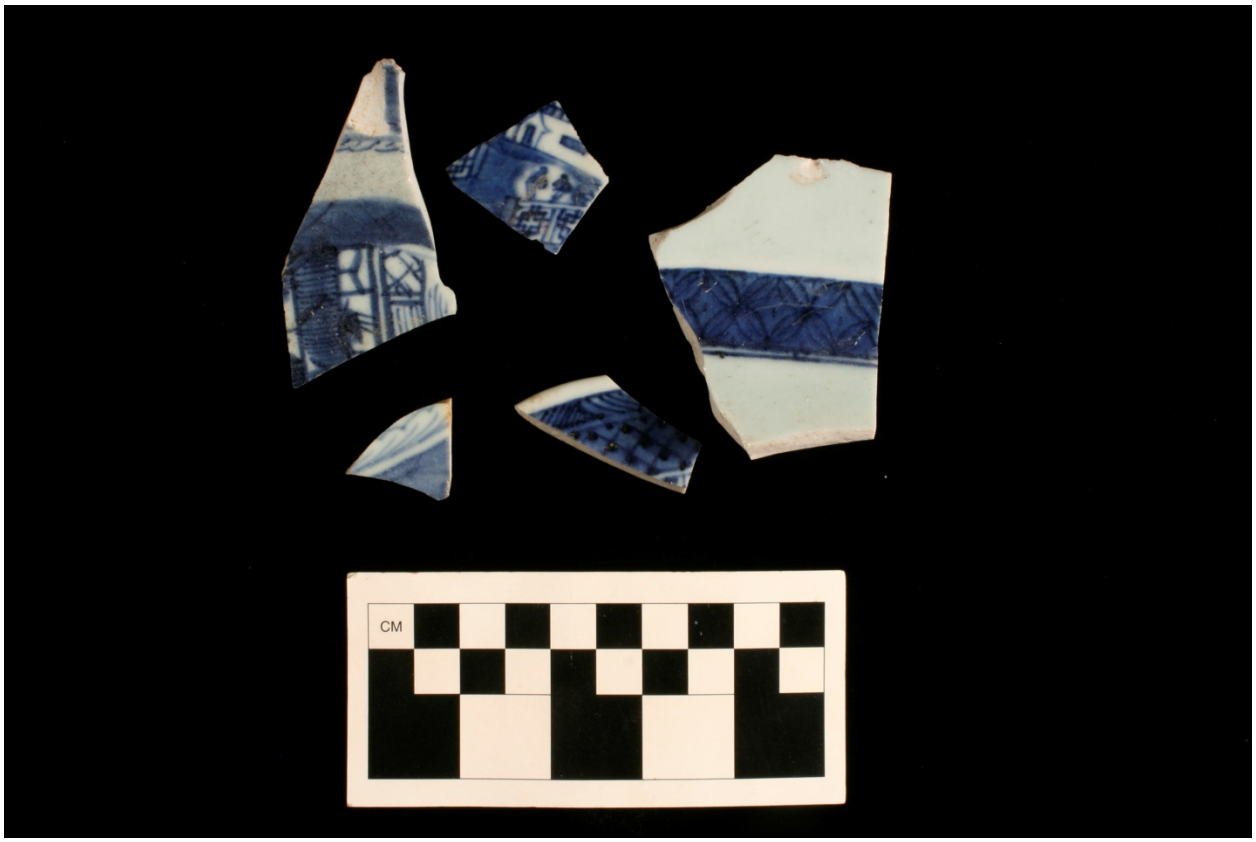


Figure 2-6. Chinese Export Porcelain (ca. 1800) Found at the Omni Site Just Blocks from the Lewis Pottery.

There were tremendous material and technical obstacles that had to be overcome by the English potters in order to make the viable copies of Chinese porcelain that the market demanded. In the 1760s English potter, Josiah Wegewood, was able to develop a suitable substitute made of locally available white kaolin clay covered with a clear glaze to produce what has been called creamware because of its creamy off-white color. These dishes quickly became popular with European and American consumers as inexpensive alternatives to Chinese porcelain. This ware developed Royal patronage and quickly became known as Queensware (Figure 2-7). Later archaeologists had a number of chronologically significant names for this ware (See Chapter 4 for a discussion of the development of whiteware). Many English potters copied Wegewood's processes and products which led to the development of the extensive Staffordshire pottery district in England. Staffordshire potters, in particular Wegewood, continued to improve their products over the next 50 years making dishes with a harder paste and whiter appearance,

which looked even more like Chinese porcelain. They were not satisfied with just making copies they also began to innovate decorative styles which created popular fads in decoration tastes (Miller 1991).

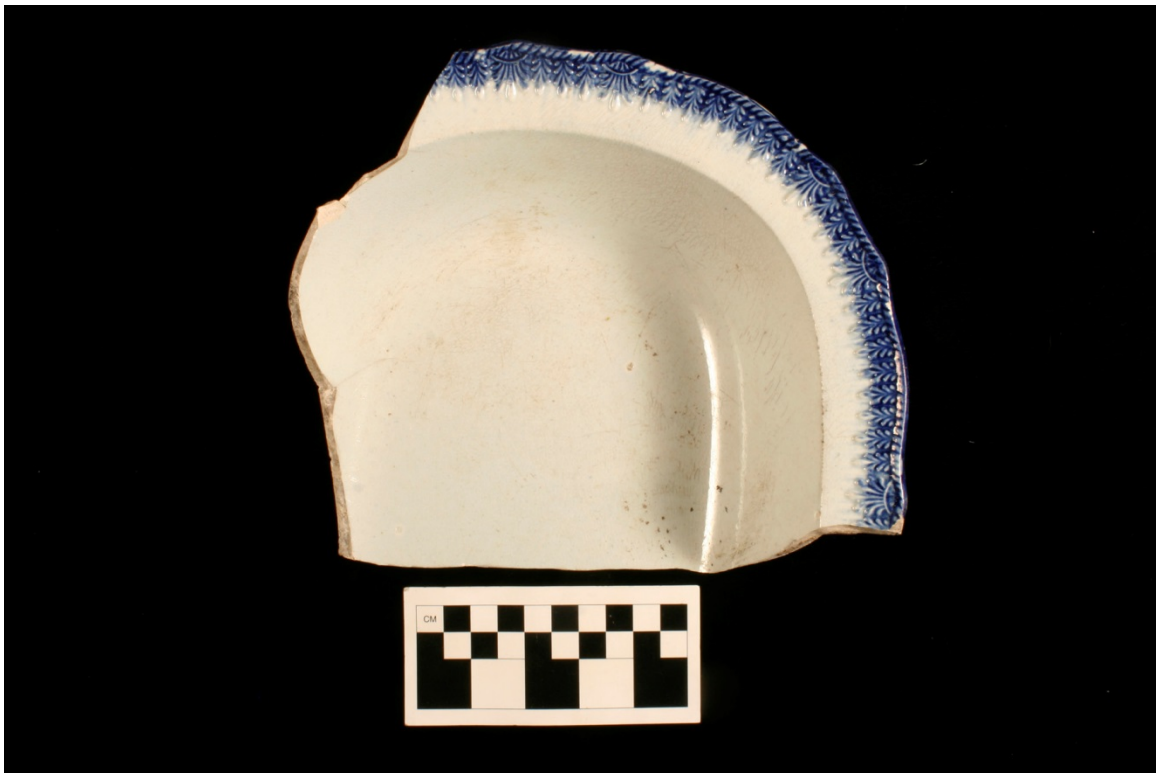


Figure 2-7. English-Made Edge Decorated Queensware (ca. 1820-1840) Found at the Haymarket Site Two Blocks from the Lewis Pottery.

Prior to the Revolution, America was dependent on England for many of its goods. England saw the burgeoning colony as a ready-made market to benefit its economy and they used their military power to ensure their economic dominance, which ultimately led to the revolution. Despite winning its independence, America was still dependent on England for many goods, as domestic efforts to produce such goods were slow to become established. By the time of the second war with England in 1812, American entrepreneurs were encouraged to break England's hold on its market by establishing a strong domestic manufacturing industry, including potteries to make dinnerware. Thus, American potters began their efforts to produce copies of the highly popular English copies of Chinese porcelain (Stradling and Stradling 2001).

To recreate the successful English effort to establish a lucrative fine dinnerware industry, American potters faced similar if not more daunting challenges than their English counterparts. The American pottery industry at the beginning of the nineteenth century was uniquely adapted to local materials and influenced by utilitarian potting techniques and traditions from places like Germany. The initial American pottery market was for utilitarian wares such as jars, jugs, crocks, and churns to support the predominantly agrarian society. These wares were easy to produce with locally available clays and wood

to fuel simple kilns (Greer 1981). American potters did not have the materials, technology, nor the knowledge required to produce English Queensware, much less Chinese porcelain.

In order to make Queensware, American potters first had to locate accessible and viable clay for making white bodied dishes. They had to either import or develop the knowledge and skill for forming fine thin bodied vessels, decorating the vessels, making proper glaze, and firing the wares. They then had to adapt their potteries and manufacturing systems to not only making viable wares but also mass producing them. Despite the enormous challenges, some American potters attempted Queensware production. These efforts were largely made in the East, specifically around Philadelphia and New Jersey at the beginning of the 1800s with little success. One pottery in Philadelphia experimented with the manufacture of porcelain figurines and experienced some success in the venture (Westmont 2012).

West of the Appalachian Mountains few potters took up the Queensware challenge, the most serious effort to do so being made by English glassmaker William Price in Pittsburgh. Price convinced fellow Englishmen William Frost and Jabez Vodrey, both of whom had worked in the Staffordshire pottery district, to move to America and establish a pottery in 1827 (Stradling and Stradling 2001). Although Frost and Vodrey had difficulty finding suitable clay, they had been successful at making some small batches of dinnerware products which they were able to sell, however the challenges were too great and the effort eventually failed. Two years later, Frost and Vodrey moved to Louisville to take up the challenge to make Queensware in Louisville with Jacob Lewis.

PREVIOUS ARCHAEOLOGY

During the last thirty years, the identification of archaeological sites has increased dramatically in Jefferson County. The majority of archaeological work within Jefferson County has been a result of cultural resource management projects undertaken in association with Section 106 of the Historic Preservation Act of 1966. Because Jefferson County was extensively used by native peoples for thousands of years and settled early in the historic period, over 800 archaeological sites have been recorded in the county.

Native American Archaeology

Although intense development in and around downtown Louisville over the last two centuries has limited the amount of Native American archaeological sites identified, significant archaeological sites have been documented in downtown Louisville. On Shippingport Island Archaic, Woodland, and Mississippian deposits have been documented (Bader and French 2004). Excavations at the Point Neighborhood (15Jf592-15Jf599) documented Archaic and Woodland burials and midden (McKelway 1995). In the same area, a significant Mississippian site was documented at Eva Bandman Park (15Jf668). Trash pits, burials, and midden were excavated at the site (Pollack 2008). Extensive archival research has shown that downtown was the site of much Native American activity, including the construction of mounds (Bader 2003a)

Other important archaeological sites investigated along the Ohio River demonstrate the extensive Native American occupation of the Ohio River lowland. The Habich site (15Jf550) in Northeastern Jefferson County at the confluence of Harrods Creek and the Ohio River contained an intensive Archaic occupation. Numerous features were identified, including burials, hearths, and storage pits (Granger et al. 1992).

Four major sites were identified in southwestern Jefferson County along the Ohio River (Collins 1979). The Longworth-Gick site (15Jf243), Rosenberger site (15Jf18), Villiers site (15Jf110), and Spadie site (15Jf14) produced significant archaeological remains dating from the Archaic and Woodland periods. Stratified occupation layers, middens, hearths, pits, and burials were documented.

Other significant Native American sites have been investigated on the floodplain across the river in Southern Indiana. The Clark Maritime Center site (12Cl12) contained extensive Woodland deposits (Reidhead 1976; Sieber and Ottesen 1985). Important Archaic deposits have been identified at the Swan's Landing site (12Hr304) (Smith 1993), the Patty's West site (12Fl146) (Smith 1992), and the Old Clarksville site (12Cl1) (Granger 1978).

Historical Archaeology

Historical archaeology in Jefferson County has largely focused on farmsteads, plantations, and urban neighborhoods. Several important historic period farmstead and plantation sites have been investigated in Jefferson County. Extensive excavations have been conducted at Locust Grove (15Jf541), Farmington (15Jf574), Riverside, the Farnsley-Moremen Landing (15Jf531), and Johnson-Bates (15Jf538). Most of these projects have focused on locating and interpreting outbuildings. At Locust Grove, the springhouse (Granger and Mocas 1972), three slave cabins (Young 1995), a barn, and an agricultural building (DiBlasi 1997) were excavated. A kitchen (McBride and Bellhorn 1992) and a slave cabin (Slider 1998) were excavated at Farmington. A detached kitchen was excavated at Riverside, the Farnsley-Moremen Landing (Stottman and Watts-Roy 2000). At the Johnson-Bates farmstead an extensive investigation of several outbuildings was conducted (O'Malley 1987). Limited excavations have taken place at several other historic sites in the county, including Blackacre (15Jf681) (Stottman 2000a), Oxmoor (15Jf647) (Young 1997), Stonybrook (15Jf676) (Stallings and Ross-Stallings 1999), the Conrad/Dravo farmstead (15Jf638) (Bader 1997), the Vulcan Rudy slave house (15Jf685) (Stottman 2001), and the Hall-Standiford tenant house (15Jf571) (Stottman et al. 1992).

Urban archaeology projects conducted in Louisville have documented a variety of sites and features. Neighborhoods were the focus of extensive projects conducted in Highland Park (15Jf607-15Jf623) (Stottman and Granger 1993) and in the Russell Neighborhood (15Jf600-15Jf606 and 15Jf624-15Jf626) (McBride 1993; Stottman and Watts-Roy 1995). A sample of house lots was investigated during each of those projects. These studies documented a variety of features, including privies and cisterns.

Investigations at the Point Neighborhood along the Ohio River in eastern Louisville revealed intact nineteenth century urban deposits (Esarey 1992; McKelway 1995). Eight city blocks (15Jf592-15Jf599) were examined in the Point Neighborhood, which was occupied from the late 1700s to late 1800s. Features identified included privies, wells, cisterns, foundations, walkways, fence posts, trash pits and the remains of a pottery. Excavations at the Scholar House in Old Louisville (15Jf767) identified privies, house foundations, cisterns, and a filled ditch associated with late nineteenth century middle class residents (Andrews and Schatz 2011). A privy also was identified at the Federal Court House (15Jf778) located between Old Louisville and the city's central core (Faberson 2011).

Excavations in Portland Wharf Park (15Jf418) uncovered remains of the original town of Portland. Building foundations, privies, cisterns, sidewalks, street paving, and intact strata from the nineteenth century were documented at this site (DiBlasi 1985; Stottman and Prybylski 2004; Stottman 2016a). Across the canal from Portland, extensive historic period deposits associated with the town of Shippingport (15Jf702) have been identified. They consisted of early to mid-nineteenth century building foundations and privies (Andrews et al. 2010). Small urban neighborhood projects included, the excavation a privy in Louisville's Parkland neighborhood (Stottman et al. 1991).

Several attempts in the 1980s to locate intact archaeological deposits in Louisville's central commercial district met with little success (Granger 1980 and 1987; Otto and Granger 1982). At that time, it was thought that most evidence of Louisville's earliest settlement and waterfront/commercial district had been destroyed by years of development. However, archaeological investigations at the Convention Center site (15Jf646) identified intact features such as privies and a cesspool (Stottman 1995). Also work at the Muhammad Ali Center site on Louisville's riverfront identified several early wood-lined privies and a privy associated with a mid-to late nineteenth century pharmacy (Bader 2003b). Analysis of materials recovered from these sites generated new insights into Louisville's earliest residential and commercial expansion from the mid-to late 1800s. Intact archaeological historic period deposits also have been documented within the Kentucky Transportation Cabinet easement for Interstate 65.

At sites 15Jf716-15Jf718 nineteenth to early twentieth century privies, cistern, cellars, and foundations associated with the residences and several businesses were documented (Faberson 2010). Intact wood-lined and brick-lined privies dating from the 1840s to the 1920s were documented at the Haymarket site (15Jf793) consisting of five house lots along Jefferson Street between Floyd and Preston Streets. Analysis of these features demonstrated how Louisville's middle class developed during the city's economic boom of the mid-nineteenth century (Stottman 2015). Ten city lots were investigated at the Omni site (15Jf902) located along Second Street between Liberty Street and Muhammad Ali Boulevard. A total of 39 features including building foundations, privies, cisterns, cellars, post holes, and trash pits dating from the early 1830s to early 1900s were documented. Analysis of these remains added valuable information to our understanding of Louisville' emerging middle class, the construction and use of privies, and the spatial organization and use of urban lots (Stottman 2016b). These projects demonstrate the

complex nature of urban sites and the varying degree to which archaeological resources can be preserved in these contexts.

Industrial and religious sites also have been investigated. Excavations at the Thomas Pottery (15Jf599) (Esarey 1992; McKelway 1995) and the Lewis Pottery (15Jf658) (Stradling and Stradling 2001; Westmont 2012) have provided a glimpse of the nineteenth century pottery industry. On the outskirts of Louisville, the investigation of Ward's Mill generated more insights into core/periphery economic relationships in the Louisville area (Granger 1984). Extensive excavations conducted underneath the Cathedral of the Assumption in central Louisville produced important information about life at the church in the mid-1800s (Mansberger 1990; 1995). Investigations at the Portland Marine Hospital (15Jf727) provided information about the construction of the hospital and its unique mid-nineteenth century privy system (Stottman 2008).

Cemeteries in downtown Louisville also have been the subject of archaeological investigations. Western Cemetery located along Jefferson Street and 15th Street was Louisville's second cemetery, being established in the 1830s. Archaeological investigations documented hundreds of graves and the neglect of the cemetery landscape over time (DiBlasi and Urban 1993; Stottman 2009).

Lewis Pottery Site

Initial excavations at the Lewis Pottery site (15Jf658) took place in 1997 by KAS in a parking lot behind an extant building. These excavations utilized a backhoe to remove the existing parking lot surface in three areas adjacent to the rear of the extant building (Figure 2-8). This work succeeded in exposing a portion of the foundation of a kiln adjacent to the building and just 30 cm below the surface. Half of a brick updraft style pottery kiln was exposed and excavated as part of this work. The kiln was circular in shape and made of brick with a central flue and a fire box and had a diameter of 4.5 m (Figures 2-9 and 2-10). The excavations indicated that the kiln appears to have been in service from the early 1830s to late 1840s and had been rebuilt or modified at least once during its use (Stradling et al. 1998).

The recovery of over 300 stoneware smoking pipes from the kiln indicate that they were the last products fired in the kiln before it was abandoned (Figure 2-11). In addition to the excavation of the kiln, areas of potter's clay and pottery wasters were sampled with three 1 x 1 m hand excavated test units. A total of 4,300 artifacts were recovered during the excavations, most of which came from the test units. Stoneware, whiteware, and manufacturing byproducts including potter's clay and coal were recovered. Artifacts included kiln furniture, wasters, finished products, nails, window glass, bottle glass, and English dinnerwares.

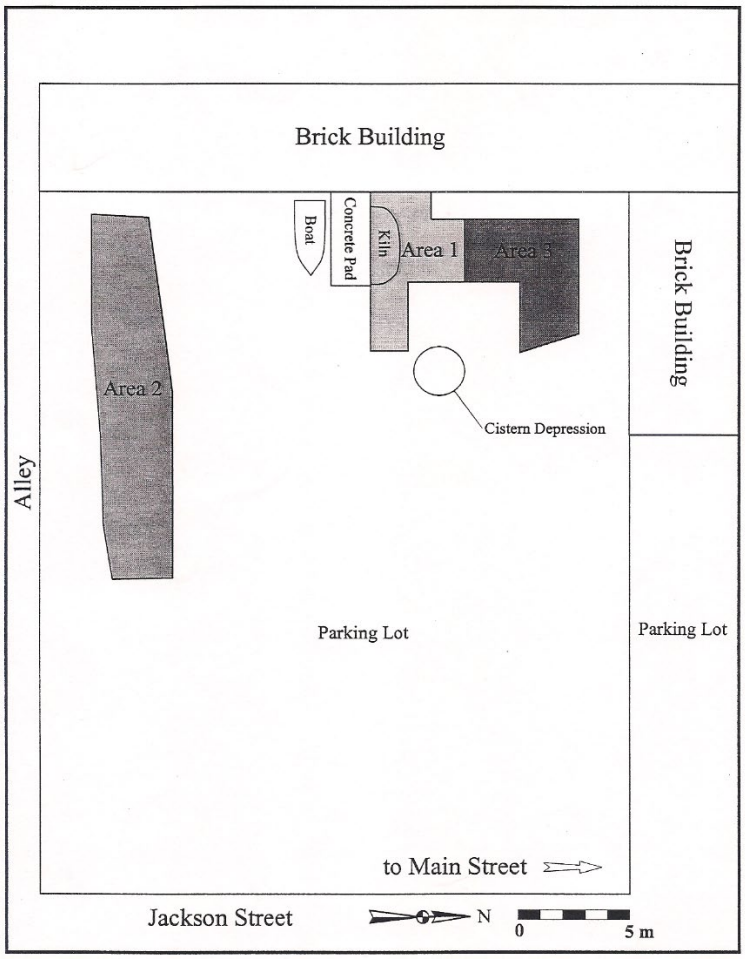


Figure 2-8. Site Map Showing Excavation Areas in 1997.

Figure 2-9. Photograph of the Excavated Kiln in 1997.

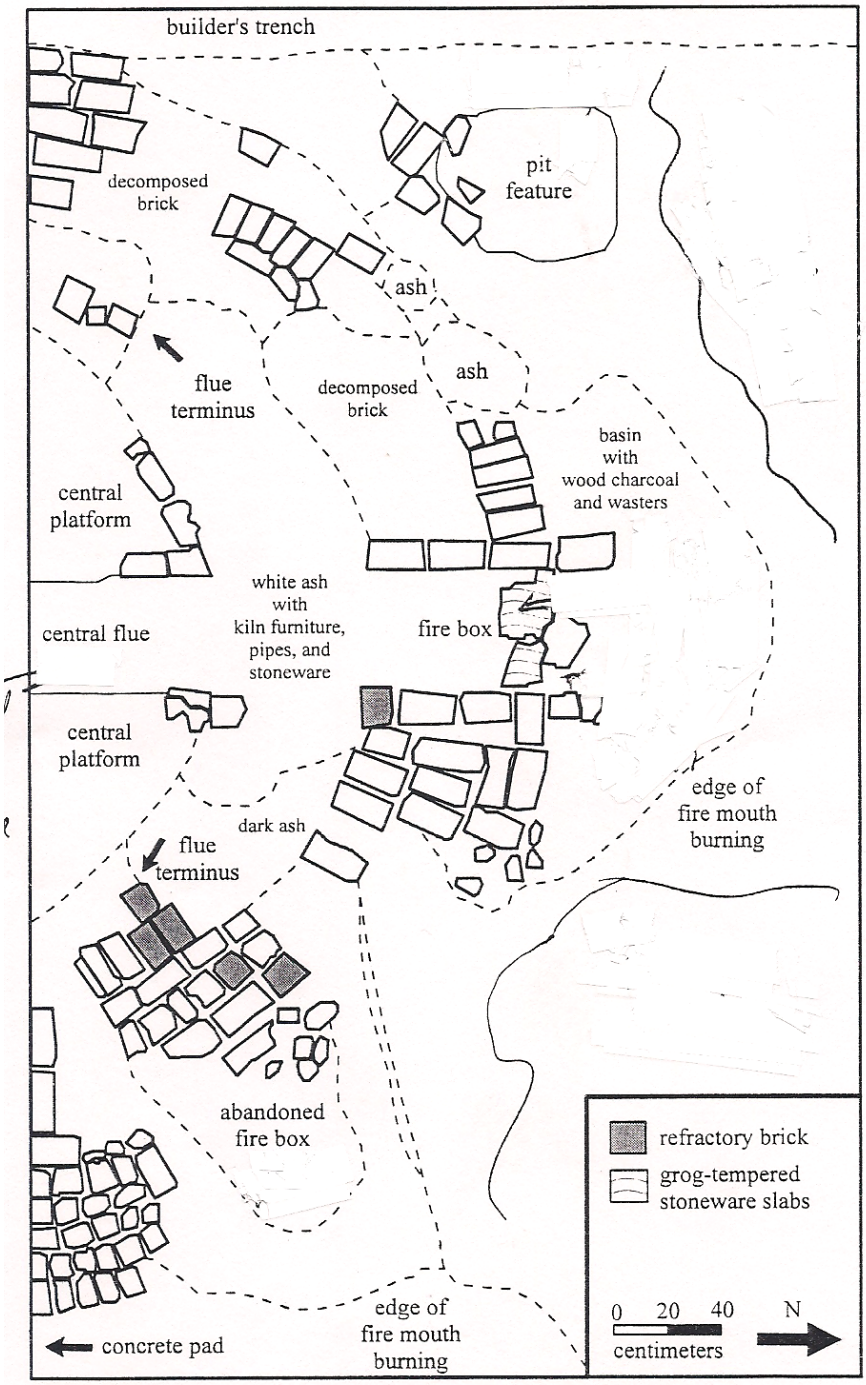


Figure 2-10. Planview of the Kiln Excavated in 1997.

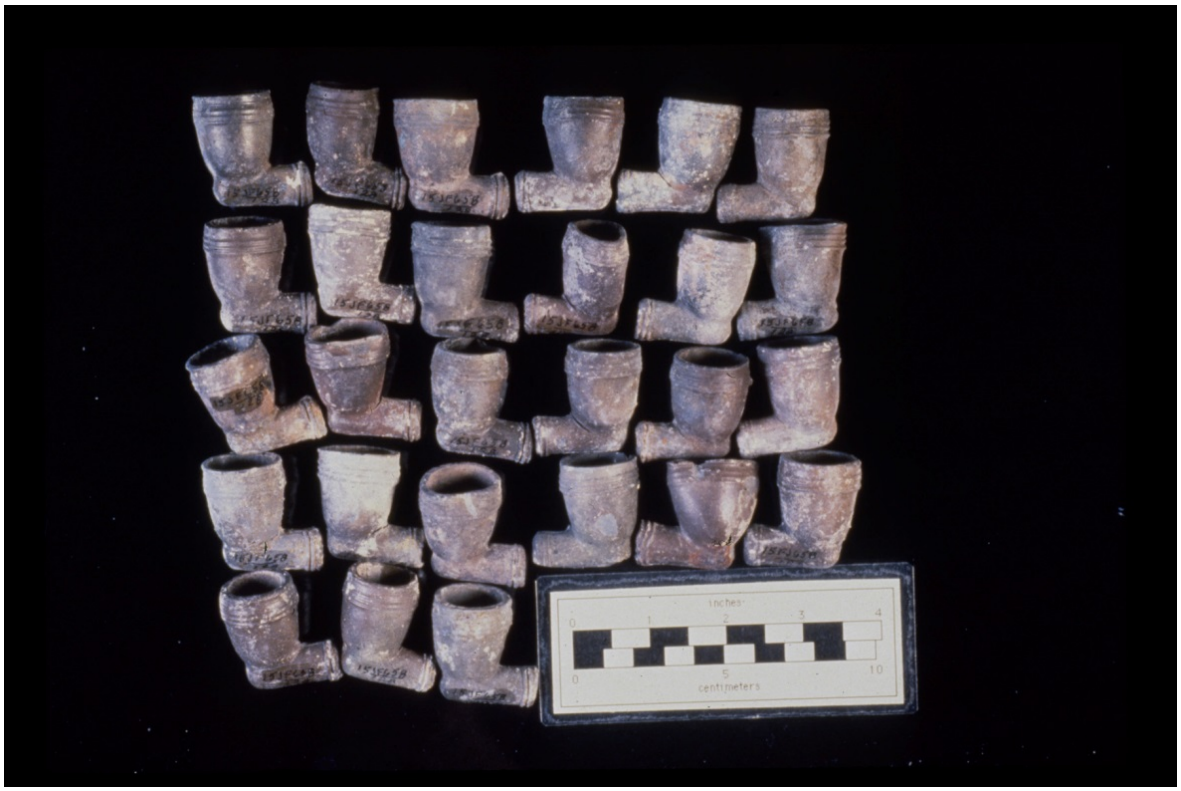


Figure 2-11. Stoneware Smoking Pipes Recovered from the Kiln in 1997.

Because most of the artifacts recovered were associated with the manufacture of stoneware, it is likely that stonewares were the primary products produced at the pottery, however a significant number of artifacts associated with the manufacture of fine whiteware dinnerware also were found in the waster deposits outside of the kiln. The presence of these artifacts indicated that whiteware production took place at the pottery and that the location and excavation of intact stratigraphic deposits at the site would provide information about this important aspect of the pottery's use. As a result of this work the Lewis Pottery site was assigned archaeological site number 15Jf658 from the Office of State Archaeology and it was recommended that additional work be conducted at the site in the future (Stradling et al. 1998).

In 2009 the brick building adjacent to the kiln area was demolished and during that work an archaeological test trench was excavated adjacent to the kiln area under where the building had been located (Figure 2-12). The trench indicated that intact stratigraphic deposits were present and that they contained a large number of stoneware and whiteware kiln furniture and wasters associated with the pottery operation. This test trench provided the basis for a recommendation of conducting additional controlled excavations of these intact deposits which is the subject of this report.

Figure 2-12. Photograph of the Test Trench Excavated in 2009.

CHAPTER 3:
METHODS

FIELD AND LABORATORY METHODS

The field methods used during this investigation included the use of a mechanical excavator to remove overburden and to look for archaeological features, such as foundations, privies and cisterns, and define stratigraphic layers (trash deposits and demolition debris). The area chosen for investigation was the southern portion of what was Lots 76 and 77, which was most likely to contain remains of the pottery manufacturing area based on maps and historic descriptions. An area adjacent to (west of) the 1997 kiln excavations and what would have been underneath the building existing at that time was chosen for stripping.

Mechanical stripping of a 25 x 8 m area was monitored by a professional archaeologist. During excavation, the upper disturbed fill zone was removed as a single layer until a feature or intact deposits were encountered at 40 to 50 cm below the surface. Features identified were documented with drawings and photographs. Those targeted for additional archaeological investigation were fully excavated by hand. Samples of intact stratigraphic deposits were fully excavated by hand in 1 x 1 m units, including demolition and waster deposits. A total of 17 units were excavated forming a 10 m long profile cross section of the site with a 3 x 3 m block being excavated at the south end (Figure 3-1). These units ranged in depth between 90 and 170 cm, with some features extending to as much as 200 cm deep. Each unit was excavated according to stratigraphic layers. These layers, along with features and arbitrary levels were assigned a sequential context number during excavation. Contexts were grouped together based on stratigraphic position, soil type, texture, and color, representing the same deposit. Each group of contexts was assigned a sequential number called master contexts which represent strata and/or features across the entire site. Two additional units were excavated at the north end of the excavation area around a small brick foundation exposed during the stripping.

Modern artifacts, such as food and beverage packaging, and miscellaneous metal and plastic objects, were noted in the field and not collected. Bricks, concrete, and other bulk building materials also were noted but were generally not collected, except for representative samples. All measurements referenced in this report use the metric system, except when architectural features are discussed, at which point feet and inches also are presented.

All artifacts collected during the project were washed, cataloged, and analyzed. All materials recovered, field notes, and photographs are curated at the William S. Webb Museum of Anthropology.

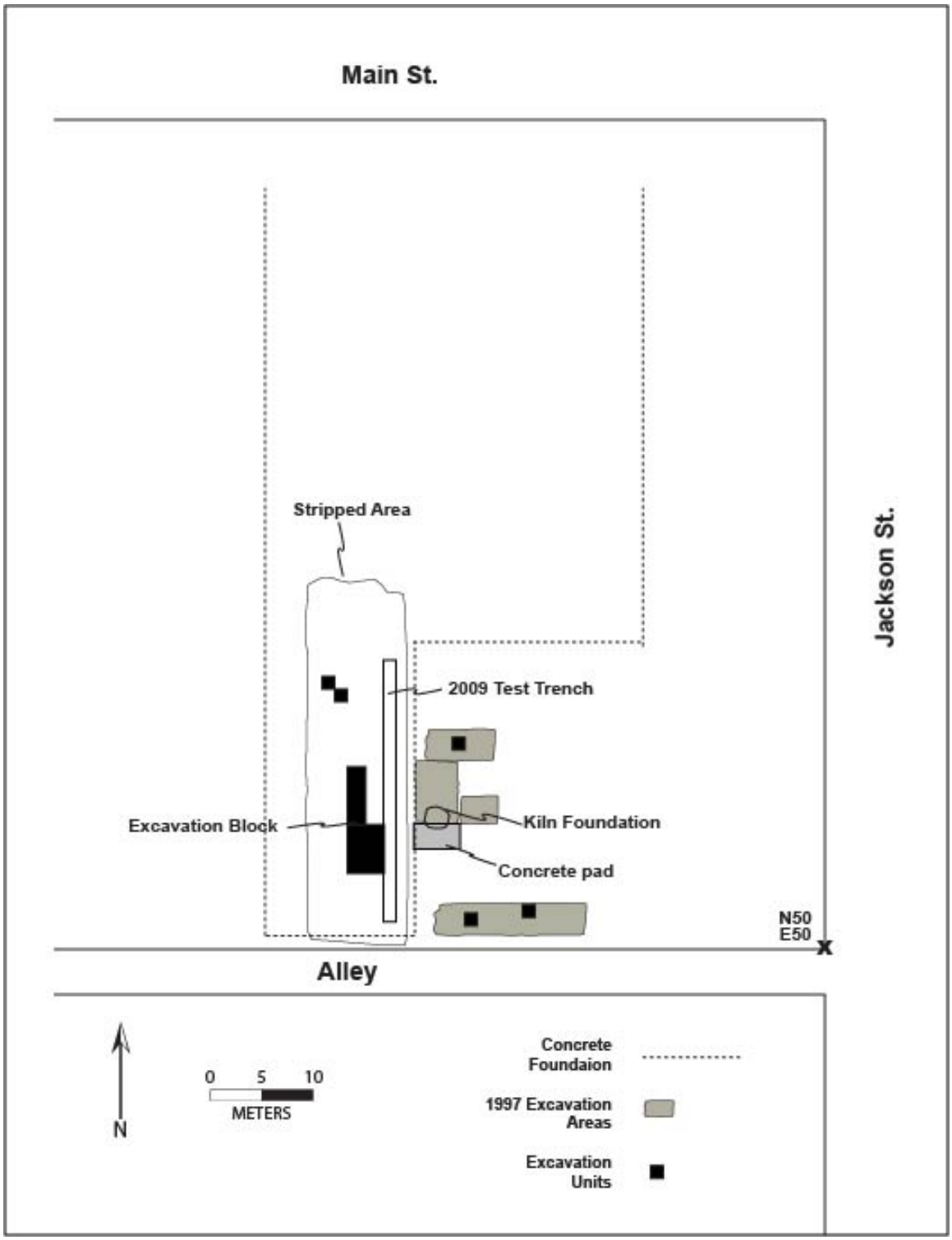


Figure 3-1. Site Map Showing the Location of Archaeological Excavations at the Lewis Pottery Site.

ANALYTICAL METHODS

Functional Groups

The classification of artifacts into functional groups has been a common practice of historic archaeologists for over 30 years (Ball 1984; South 1977). This method assigns artifacts to groups based on the historically derived function of the artifact. For example, objects associated with kitchen activities, like food service or preparation, are assigned to the kitchen group, and items related to architecture are assigned to the architecture group. The number of groups in the classification scheme can range from seven to 16 depending on the type of site and the individual researcher. Percentages are then calculated for each group to characterize the function of a particular deposit or feature.

Functional groups are used in this report to characterize artifact assemblages from specific stratigraphic layers and features to help determine their function. The functional groups used in this report include activities, architecture, furniture, kitchen, and personal. Most of these groups are self-explanatory with regards to the types of artifacts assigned to them. The architecture group includes artifacts related to the construction of buildings or other structures, such as nails, brick, window glass, etc. The kitchen group includes artifacts associated with the preparation, service, and storage of food, such as dishes, pottery, utensils, bottles, etc. Artifacts associated with furnishings of houses and other buildings are assigned to the furniture group and include lamps, drawer pulls, upholstery tacks, castors, etc. The personal group includes artifacts that would be considered a personal possession or associated with personal care, such as, coins, toys, watches, jewelry, cosmetics, medicine bottles, etc. The activities group tends to be a catch all category for most items that do not fit other established groups, but it is most associated with activities that take place on farms, around homes, and industry. Artifacts in this group usually include most tools, fencing, buckets, fishing gear, bolts, nuts, horse tack, etc. In the case of the Lewis Pottery site, the activities group was expanded to include industrial artifacts associated with pottery manufacture, such as kiln furniture and wasters.

Although faunal remains are often associated with food remains and thus could be assigned to the kitchen group, not all faunal remains were used as such. In this report all faunal remains were grouped together as faunal remains, which did not represent any particular historic function.

T.P.Q. Dating

The presence of diagnostic (datable) artifacts can be used to assign a temporal range to a stratigraphic layer or feature. For some artifacts, a manufacture date range can be established by using historical documents. This date range can then be used to derive a *terminus post quem* (T.P.Q.) date. This date uses the newest beginning date of diagnostic date ranges to provide a date after which a deposit could have been made. T.P.Q. dates are used in conjunction with stratigraphic context to determine when particular context could have been deposited (Noël Hume 1969a).

It should be noted that temporally diagnostic glass artifacts are more likely to accurately reflect the deposition date of a group of artifacts than ceramic artifacts. Some glass artifacts, such as bottles, are more likely to enter the archaeological record much quicker than ceramics, because their use is over when the bottles are emptied. It has been suggested that ceramics are typically curated for an average of 20 years or longer (South 1977). T.P.Q. dating was used to compare temporal differences between particular contexts. A T.P.Q. date or a general date range was used to obtain a basic sense of chronology for a particular assemblage.

Stratigraphic Analysis

Using T.P.Q. dates, stratigraphic relationships, and information derived from the artifacts such as functional groups, approximate dates for layer deposition were derived. Stratigraphic relations were documented using a Harris Matrix.

A Harris Matrix is a simple way to diagram stratigraphic relationships across an entire archaeological site. The Harris Matrix identifies that all stratum are related by being either younger, older, or contemporaneous based on the Laws of Superposition, Original Horizontality, Original Continuity, and Stratigraphical Succession (Harris 1989:34). The matrix works by grouping layers that are somewhat contemporaneous together to view vertical and temporal associations simultaneously (Lucas 2001:57). For the purposes of this study, modifications were made to the original Harris Matrix methodology. Specifically, artifacts were used to further define and relate strata and features. Functional groups were used to help determine a deposit's function and formation processes which were then related to corresponding historical documents, dates, and temporal associations. Layers were also characterized using T.P.Q. dates, which provided an earliest potential deposition date. These T.P.Q. dates affected temporal groupings of layers within the Harris Matrix. The use of artifact functional groups and T.P.Q. dates helped to further define the stratigraphic relationships illustrated by the Harris Matrix and allowed for the deposits to be divided into time periods that related to historically documented events in the site's history.

CHAPTER 4:
MATERIALS RECOVERED

A total of 26,121 artifacts was recovered during the investigations. This does not include faunal remains (n=372). The artifacts are described below based on material type. Within each material category, artifacts were further subdivided into functional groups (i.e., activities, architecture, furniture, kitchen, and personal).

Most of the artifacts were assigned to the activities functional group, which comprised nearly 95 percent of the artifact assemblage (Table 4-1). Other functional groups are minimally represented (Table 4-1). A description of the artifacts by material type and an assessment of the assemblage related to functional groups is presented below.

Table 4-1. Functional Groups*.

Functional Group	Frequency	Percent
Activities	24,718	94.6
Architecture	998	3.8
Furniture	4	<.1
Kitchen	393	1.5
Personal	8	<.1
Total	**26,121**	**100.0**
*Does not include faunal remains.		

CERAMICS

Given the nature of the site as a pottery, it is not surprising that ceramics were the most frequently recovered artifact material (n=24,602). Ceramics were initially classified by paste type: refined or coarse. Refined ceramics were used in the manufacture of fine dishes and delicate objects, most of which were made outside the United States in the nineteenth century. Coarse ceramics were locally made and were generally used in the manufacture of utilitarian wares. The majority of the sherds recovered were refined ceramics (n=16,744), with 7,858 being classified as coarse ceramics.

Refined Ceramics

The refined ceramics group includes several chronologically significant types based on the paste type or clay used (Table 4-2). With few exceptions, refined ceramics were finished with a clear glaze. As refined ceramic technology improved over time, less porous and whiter bodies were produced. The most prominent ceramic type produced during Kentucky's early historic settlement was creamware (n=4), so called because of its creamy yellowish-green tinted glaze. Josiah Wedgewood developed creamware in the 1760s, after several years of experimentation (Noël Hume 1969b). This ware represents one of many attempts by Staffordshire potters in England to produce an inexpensive version of the fine Asian hard white porcelain they sought to emulate. Throughout the late 1700s, creamware was the most popular English-made china in America (Miller 1991;

Noël Hume 1969a). Production of creamware continued into the 1810s, but was most prominent prior to 1800 (South 1977).

By the 1780s, the utilization of better clays and new glazes allowed potters to create a whiter English ceramic called pearlware (n=17). Although a blue-tinted body characterizes this type of ceramic, it has a whiter appearance than the yellowish green-tinted creamware (Miller 1991; Noël Hume 1969a). Pearlware was most popular in America in the early 1800s, although production lasted into the 1830s (South 1977). By 1830, English potters had developed an even whiter colored ceramic, known as whiteware (n=266) (Miller 1991). It was the predominant ceramic type produced throughout the mid- to late 1800s and it was the most numerous imported refined ceramic type recovered from the site (Table 4-2).

Although whiteware lacked the hardness of porcelain, it was almost as white and proved to be a popular substitute. By the time whiteware was being produced, the American appetite for imported refined ceramics had grown. Although the British dominated the whiteware market throughout most of the 1800s, some American potteries produced whiteware as early as the 1830s (Stradling and Stradling 2001). Because it has been documented that the Lewis Pottery site was one of just a few American potteries that experimented with making whiteware, American-made early whiteware was the most frequently found refined ceramic recovered (n=16,395), most of which were wasters from the manufacturing process.

Table 4-2. Refined Ceramic Types and Decorations.

Paste Type/ Decoration	American Whiteware	Cream Ware	Pearl Ware	Porc.	White Granite	White Ware	Total
Banded	3,849	1	0	0	0	8	**3,858**
Colored glaze	3	0	0	0	1	1	**5**
Dipt	2	0	0	0	0	0	**2**
Edge decorated	12	0	0	0	0	10	**22**
Flowed	0	0	0	0	0	1	**1**
Hand painted	1	0	0	4	0	4	**9**
Incised	13	0	0	0	0	0	**13**
Mocha-dendritic	94	0	0	0	0	1	**95**
Other	50	0	0	0	0	0	**50**
Pattern Molded	31	0	0	0	0	0	**31**
Shell edge	0	0	2	0	0	0	**2**
Transfer Printed	0	0	6	1	1	116	**124**
Undecorated	11,811	3	9	16	39	125	**12,003**
Unidentified	529	0	0	0	0	0	**529**
Total	**16,320**	**4**	**17**	**21**	**41**	**266**	**16,744**

Shortly after the initial development of whiteware, a harder paste whiteware known by a variety of names, mostly commonly white granite, ironstone, and semi-porcelain, was developed. All of these names refer to brand names for hard paste whiteware developed by the different potters. In this report, these types of ceramics were classified as white granite (n=41) (Table 4-2) (Miller 1991). Although some English potters had produced

what they called ironstone and semi-porcelain by 1805 or 1815, white granite ceramics were not in widespread production until 1845 (Miller 1991; Noël Hume 1969a).

While both whiteware and white granite ceramics were manufactured throughout the mid-1800s, by the 1870s white granite had become much more common than the older and softer whiteware (Miller 1991; Smith 1983). Because it is very difficult to distinguish whiteware from white granite, some archaeologists do not attempt to make a distinction. However, distinguishing between the softer paste whiteware and the harder paste white granite can provide some chronological information, as whiteware is more indicative of the 1830s-1850s and white granite more indicative of the post-1850s period.

By the 1880s, American potteries began to cut into the English dominance of the American ceramic market. Major ceramic producing regions began in the Midwest and East, and became centered in the Ohio Valley, particularly Ohio and West Virginia (DeBolt 1994). White granite ceramics were, at the turn of the twentieth century, mass-produced by both English and American potters, making them affordable to most of the country's population. By the 1900s, white granite was more like porcelain than whiteware and American potteries frequently used terms like semi-porcelain, semi-vitreous, and vitreous to describe their wares (DeBolt 1994). Typical porcelain has a very refined paste that is almost smooth like glass. While semi-porcelain or late white granite is quite like porcelain, but it is not as refined and has a grainy texture.

Some porcelain was manufactured in England and Europe in the 1700s, but it was very expensive to produce, thus beginning the quest for an inexpensive substitute as described above (Noël Hume 1969a). Most porcelain during the 1700s and 1800s was produced in Asia, but some was produced in Europe, mainly by the Germans and French. By the mid-1700s, the English accounted for a substantial amount of European porcelain manufacture.

Although English and Asian porcelain was exported to America in the 1700s and early 1800s, it was generally only accessible to the very wealthy. By the mid- to late-1800s, porcelain was more accessible and could be purchased by moderately wealthy families, though they tended to purchase in tea sets rather than complete dinner sets. Since it has been manufactured for such a long time, it is difficult to establish a date of manufacture for porcelain without maker's marks or specific decorations. Most of 21 sherds of porcelain was recovered from the site were probably produced in Europe during the early to mid-1800s (Table 4-2).

Although refined ceramics were most often undecorated (n=12,003), a wide variety of decorative types were used throughout history. Decorative types recovered from the Lewis Pottery site were mostly banded, transfer printed, pattern molded, edge decorated, or mocha decorated (Table 4-2).

One of the most common ways to decorate ceramics was by painting designs by hand (n=9) (Table 4-2). On nineteenth century dishes, they typically reflected floral motifs in a variety of colors, which were painted on the vessel body and then covered with a clear

glaze. Transfer prints (n=124) were transferred from copper engravings to plain dishes and then overglazed. The patterns were usually very elaborate, depicting scenes or having geometric or floral motifs that were available in several colors: black, brown, blue, red, mullberry, purple, and green (Samford 1997). Transfer printed decorations had been developed in 1756, but were not frequently used until the end of the 1700s (Noël Hume 1969). This technique was most popular from the 1830s to the 1850s, with a small resurgence in the 1870s and 1880s (Miller 1991). Similar to transfer prints are flowed decorated ceramics that have the appearance of a smeared transfer print where the coloring runs together. During the firing of transfer printed wares, a volating solution was added, which created the flowed effect (Samford 1997). Flowed decoration (n=1) usually occurs in the color blue or black and was used throughout the 1800s.

Decoration on the edge of a vessel (n=22) is one of the earliest types of decorations and occurs in many different forms, ranging from impressed designs to painted bands. Simple colored bands were often used to decorate vessels through the application of slip or painted bands around the edges and body (n=3,858) (Table 4-2). Colored bands are also associated with mocha style decorations as well (see below). Patterns of impressed, embossed, or molded leaf patterns on the edge of wares were common from the early 1700s on through the end of the 1800s (Noël Hume 1969b; Miller 2000). The most common types of edge decoration found in America are vessels that have curved or straight impressed lines and scalloped rims. Collectively this type of edge decoration was known as shell edged wares (n=2). Colored bands on shell edged wares include blue, green, or red colored slip. Shell edged decoration types were most common on pearlwares and early whitewares, roughly dating from the 1780s to the 1850s (Miller 2000).

Mocha style decoration (n=95), includes a variety of annular banded types that were occasionally accented with dendritic, cable, cat's eye, dots, feather, and rouletted designs (Figure 4-1). All of the Mocha style decorative types used on refined ceramics from the site featured dendritic designs. The predominantly banded motifs also been referred to as "dipped or dipt" decoration, featuring a variety of colored glaze, often brown, pale green, or blue in color (Carpenter and Rickard 2001; Miller 1991). Mocha accents were formed by painting dendritic patterns with black slip; forming white, brown, black, and blue slip patterns with chambered slip cups; or cutting patterns painted with green copper oxide, also known as roulette or engine turned designs (Carpenter and Rickard 2001).

Pattern mold designs (n=31), which were used throughout the nineteenth century, consisted of decorative patterns that were molded directly into a ceramic vessel and then overglazed. Pattern molding is often used to create paneled designs on the vessels, which were very common on whiteware and white granite of the late 1800s. A variety molded designs, such as ribbed patterns and scroll or floral designs occurred on many vessels during the 1800s. This is similar to impressed and embossed decorative patterns of various designs used during the 1700s and 1800s on the edges of vessels.

Figure 4-1. Examples of Banded and Dendritic Mocha American Whiteware.

Some sherds of American whiteware consisted of a small thin incised line around the vessel (n=13). Other decorative types identified included various brown slip that may have been part of very wide bands (n=49) and molded lines (n=1). Some refined ceramics exhibited an unidentified decorative type (n=529) (Table 4-2).

Coarse Ceramics

Coarse ceramics (n=7,858) recovered from the site consisted of redware, stoneware, yellowware, and unidentified coarse earthenware (Table 4-3). These ceramic types were not typically used in the production of table or teawares. Rather they were used for utilitarian vessels, such as crocks, bowls, and jars or for personal items such as smoking pipes and marbles. Redwares (n=520), so called because of their distinctive chalky red paste, were the predominant coarse ceramic from the 1750s to the 1850s, but continued to be manufactured into the 1900s (Table 4-3). They were fired at a relatively low temperature, which limited the types of glazes that could be used (Greer 1981; Ketchum 1983). They are usually undecorated, exhibiting a simple clear glaze or slip glaze in brown or black. Most of the redware recovered from the Lewis Pottery site was slip glazed (n=395), while only one was clear glazed. Some redwares were highly decorated with slip-trailed designs in a variety of colors or were incised with thin bands or lines, however none of these were recovered from the site. Unglazed and undecorated redware (n=121) was recovered, likely representing pottery wasters.

Table 4-3. Coarse Ceramic Types and Exterior Glazes.

Decoration/ Exterior Glaze	Ceramic Type							Total
	Buff Stone ware	Gray Stone ware	Other*	Red Stone ware	Red ware	Multi Stone ware	Yellow ware	
Banded-clear	0	0	0	0	0	0	1	**1**
Banded-salt	3	0	0	0	0	0	0	**3**
Colored slip-clear	3	0	0	0	0	0	1	**4**
Hand painted-salt	13	31	0	4	0	0	0	**48**
Incised-salt	36	24	0	0	0	0	0	**60**
Mocha-salt	0	1	0	0	0	0	0	**1**
Mocha-slip	1	0	0	0	0	0	0	**1**
Pattern mold-clear	0	0	0	0	0	0	2	**2**
Pattern mold-salt	3	0	0	0	0	0	0	**3**
Pattern mold-slip	1	0	0	0	0	0	0	**1**
Pattern mold-none	0	0	0	0	1	0	0	**1**
Spatter brown-clear	11	0	0	0	0	0	2	**13**
Stamped-salt	0	2	0	0	0	0	0	**2**
Stampled-slip	1	0	0	0	0	0	0	**1**
Undecorated-Albany	2	0	0	8	0	0	0	**10**
Undecorated-clear	0	0	0	0	1	0	32	**33**
Undecorated-salt	907	1,389	1	70	0	8	0	**2,375**
Undecorated-slip	1,174	145	2,422	150	395	0	81	**4,367**
Undecorated-none	254	6	0	19	121	0	11	**411**
Unidentified-salt	77	316	0	0	0	0	0	**393**
Unidentified-slip	5	0	0	0	0	0	0	**5**
Unidentified-none	77	2	42	0	2	0	0	**123**
Total	**2,568**	**1,916**	**2,465**	**251**	**520**	**8**	**130**	**7,858**

*includes unidentified coarse earthenware and drainware.
Counts reflect numbers of sherds.

Stonewares were fired at a higher temperature than redwares, which made them more durable (Greer 1981). During the seventeenth and eighteenth centuries, stoneware was widely used in England and Germany to primarily produce utilitarian vessels and tavern wares, such as tankards and bottles. A wide variety of stoneware types were developed during that time, some of which also were used to produce tablewares and some more refined vessels. The most prominent of these types was brown stoneware and white salt glazed stoneware (Noël Hume 1969b).

American stoneware was being made in the early 1800s but became most popular during the 1850s. Its popularity lasted into the 1900s (Ketchum 1983). These ceramics usually have a buff (n=2,568) or gray (n=1,916) body color, which ranged from a reddish buff brown to almost white (Table 4-3). Some of the stoneware recovered from the Lewis Pottery site had a deep red colored body (n=251), while multi-colored buff and gray two-toned body stonewares (n=8) also were recovered (Table 4-3).

Because stonewares were fired at a high temperature, they often were salt glazed (n=2,081) or slip glazed (n=8) in various shades of brown, gray, or green (Greer 1981).

Salt glazing was most common on gray stoneware which accounted for 92 percent of gray stoneware sherds compared to just 40 percent for buff stoneware. Conversely most of the buff stoneware was slip glazed accounting for 47 percent of the buff stoneware assemblage. Some stoneware sherds were unglazed (n=339), most of which were buff stoneware and likely represented wasters from the pottery manufacturing process (Table 4-3).

Stoneware vessels were occasionally decorated with simple painted designs, stamped capacity marks, or incised lines. Decorated gray and buff stonewares were mostly hand painted and incised. One sherd of gray salt glazed stoneware exhibited a stamped capacity mark number "2" for two gallons and another was stamped with the number "4" . One fragment of slip glazed buff stoneware was stamped with a maker's mark "Doane & Hancock/Louisville KY" (Figure 4-2).

Figure 4-2. A Stoneware Waster with a Maker's Mark from Doane and Hancock.

Yellowware (n=130) was manufactured from a yellowish colored clay, which gave it a yellow hue when a clear glaze was added, hence its name. It began to be produced in the 1830s and found its greatest popularity in the late 1800s and early 1900s (Gallo 1985). Yellowware was decorated a variety of ways, including pattern molding, banded, brown slip, brown spattered, sponged, or dendritic designs. Yellowware recovered from the site was mostly undecorated with a brown slip glaze (Table 4-3).

Vessel Forms/Objects

A variety of ceramic vessels/objects were identified. Most of these were assigned to the activities group, comprising 99 percent of the ceramic assemblage. The only other functional groups that were represented included the architecture, kitchen, and personal groups (Table 4-4).

The activities group was entirely comprised of objects associated with the ceramic manufacturing process, which fell into three specific types including kiln furniture (n=3,465), wasters (n=20,915), and raw material (n=42) (Table 4-4). Kiln furniture refers to objects used to stack pottery inside of a kiln during firing. Most kiln furniture was used to support or separate pottery within the kiln, such as props, stilts, trivets, wads, and spacers (Table 4-4). Most of these were hand formed and made from salt glazed stoneware, with flat spacers (n=1,076), stilts (n=534), and jug spacers (n=218) being the most common.

Flat spacers were used to keep vessels separated using the hanging stacking method where vessels are nested inside of each other or stacked bottoms on tops (Figure 4-3). Wads (n=9) and rolled spacers (n=72) were used to separate the mouth to mouth stacking method where the vessels are stacked rim to rim (Figure 4-4). Stilts were used to keep the individual stacks of vessels separated (Figure 4-5). Because the tops of jugs are so different than other vessels a special spacer or stacker was used to allow vessels to be stacked on top of each other. These types of kiln furniture were mainly used for stoneware, yellowware, or redware utilitarian vessels.

Draw tiles (n=8) also were recovered from the Lewis Pottery and represent a different type of kiln furniture or equipment (Figure 4-6). They were usually rough-cut square or rectangular strips of clay with a hole through the middle. The Lewis Pottery example was made of stoneware. They were used to test the kiln heat and firing capabilities of certain clay and glazes. The hole in the tile allowed a tool to be used to place it in the kiln and later to retrieve it while firing takes place.

Because refined ceramic dinnerwares were far more delicate than utilitarian stonewares, their firing required different kiln furniture. They were placed within special containers called saggers (n=501) to promote more even firing. Saggers are typically large square or rectangular containers made of unglazed or slip glazed refractory stoneware (Figure 4-7). Vessels had to be situated within these containers using triangular prism shaped props (n=17) or trivets (n=9) (Figure 4-8). Props were usually made of the same glazed ceramic type as the vessels being fired, in the case of the Lewis Pottery whiteware.

Wasters refer to the pottery that is damaged during the manufacturing process and discarded as not saleable. Pottery vessels are typically damaged from warping, glaze defects, and breakage. Warping occurs when vessels become warped or misshapen. Glaze defects occur from uneven glazing, failing glaze, or poor adherence of glaze to the vessel (Figure 4-1). Many vessels break during the firing process from cracking or can even explode. Potters expected that a certain percentage of their kiln loads would be damaged, and every pottery had discard areas to dispose of wasters often near kilns.

Table 4-4. Ceramic Functional Groups and Vessels/Objects.

Functional Group/Vessel Form/Object	Frequency*
Activities	
Draw tile	8
Prop-triangular	17
Raw material	42
Sagger	501
Slag	8
Slag glaze	1
Spacer-flat	1,076
Spacer-jug	218
Spacer-rolled	72
Spacer-square tiles	1
Stilt-handmade	145
Stilt-molded	389
Trivet	9
Wad	720
Waster-bowl	175
Waster-cup	20
Waster-handle	136
Waster-jar	273
Waster-jug	91
Waster-pitcher	75
Waster-smoking pipe	128
Waster-unidentified	20,017
Subtotal	**24,122**
Architecture	
Drain pipe	**1**
Kitchen	
Churn	7
Cup	1
Jar-unidentified	3
Jar-small mouth	38
Jar-wide mouth	9
Jug	2
Plate	1
Soup plate	2
Storage Jar	24
Unidentified	390
Subtotal	**477**
Personal	
Bead	2
Button-four hole	2
Button-unidentified	1
Smoking pipe	1
Subtotal	**6**
Total	**24,606**
*Counts consist of number of sherds.	

Figure 4-3. Stoneware Flat Spacers.

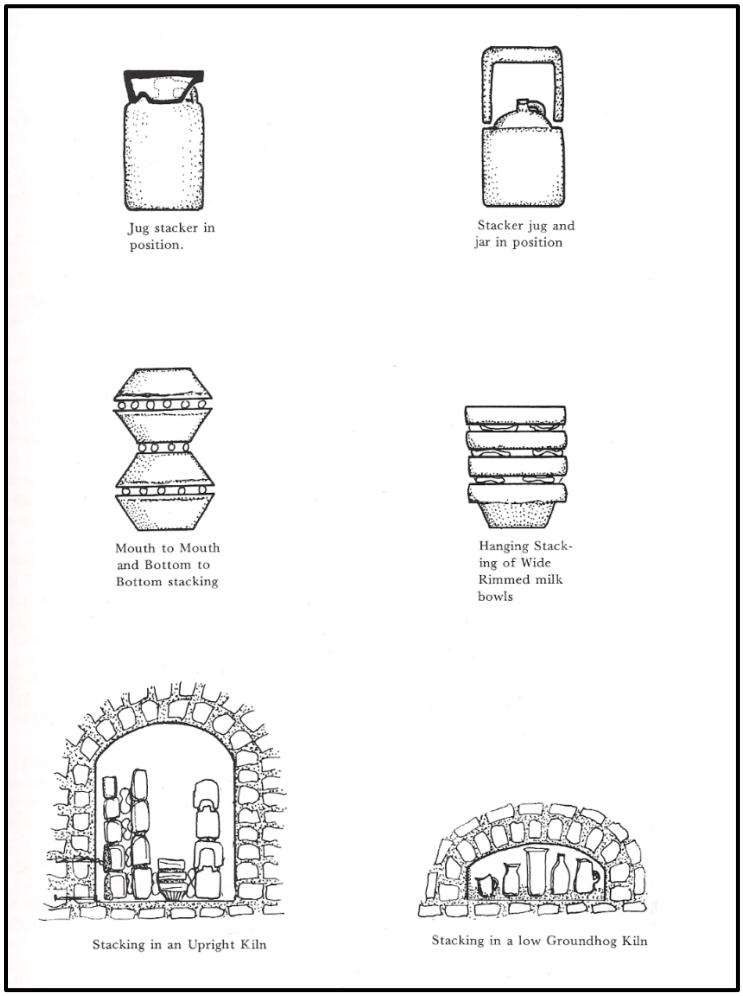


Figure 4-4. Illustration of Kiln Stacking and Spacers (Greer 1981).

Figure 4-5. Stoneware Handmade Stilt Props.

Figure 4-6. Stoneware Draw Tiles.

Figure 4-7. Coarse Earthenware Sagger Fragments.

Figure 4-8. Whiteware Kiln Furniture: Props, Trivets, and Spacers.

Examination of wasters can provide an indication of problems that potters experienced with the manufacture of their wares. For instance, the whiteware wasters recovered from the Lewis Pottery site tend to exhibit a great deal of glaze defects and structural failure of the clay causing breakage, suggesting that the potters experienced some challenges in the manufacture of whiteware vessels (Figure 4-1). The stoneware wasters seem to have typical issues expected for such potteries with warped vessels and some glaze defects (Figure 4-2).

Although most wasters were unidentified for vessel form, some were identifiable and indicate that various sizes of bowls, jars, jugs, pitchers, cups, and smoking pipes were made at the pottery. The jugs, jars, and smoking pipes were made of stoneware. Whiteware wasters indicate that London style tea bowls and cups indicate that potters at the Lewis Pottery were attempting to make British style tea wares, which were popular during the early to mid-1800s.

Ceramic raw material in the form of potter's clay samples (n=42) were collected from the site. They included gray and white clay samples and represent the most common ceramic types at the site, gray stoneware and whiteware. Also stoneware slag or residue from salt glazing and wasters was recovered as well (n=9).

The ceramic vessels assigned to the architecture group consisted of a single drainpipe fragment. It was made of rough slip glazed stoneware and was not likely made at the Lewis Pottery. This type of pipe was made during the late 1800s to mid-1900s and mainly used for sewage or roof runoff drainage (Deiss 1992).

Most of the kitchen group ceramics were unidentified for vessel forms representing a total of 390 vessels, which were likely fragments of common dishes such as bowls, cups, and plates. Identified kitchen group ceramics consisted primarily of various types of jars (n=74), including small and wide-mouth storage and canning jars (Table 4-4). Some of these could have been made at the Lewis Pottery, but they represent finished products that were likely used by the pottery workers and those that lived on site. Smaller quantities of English-made cups and plates also were recovered and likely used by the site's inhabitants or could be some stock from the pottery store, which also was known to have sold imported wares.

The ceramic vessels assigned to the personal group included beads (n=2), buttons (n=3), and a smoking pipe. With the exception of the smoking pipe, these were not made at the Lewis Pottery. All were used by either the pottery workers or site inhabitants.

GLASS

Most of the glass objects (n=873) were assigned to the architecture group (80 percent) (Table 4-5). Kitchen group glass artifacts consisted primarily of unidentified containers (n=121) and unidentified bottles (n=21). Of the kitchen group artifacts that were identified for vessel function, most were used for medicine (n=15), but some were used for liquor (n=6) and beer (n=4) (Table 4-5). Other kitchen glass vessels included tablewares,

such as bowls (n=3) and stemware (n=1) (Table 4-5). The only other functional group represented was the furniture group, which consisted entirely of lamp chimney glass (n=2).

Table 4-5. Glass Vessel Forms/Objects.

Functional Group/ Glass Vessel Form/ Object	Frequency
Architecture	
Window	700
Furniture	
Lamp chimney	2
Kitchen	
Bottle, beer	4
Bottle, liquor-flask	6
Bottle, medicine	15
Bottle, unidentified	21
Bowl	3
Stemware	1
Unidentified	121
Subtotal	**171**
Total	**873**
*Counts consist of number of sherds.	

Like ceramics, glass-manufacturing technology evolved over the years. Prior to the nineteenth century, glass containers were entirely free blown or blown into molds. Great innovations in glass manufacture occurred in the nineteenth century including various ways of molding vessel bodies and forming lips and rims. Such developments included pattern molds (1780-1840), the three-piece or Rickets mold (1810-1890), several variations of the two-piece mold (1845-1913), and turn or paste molds (1860s-1915) (McKearin and Wilson 1978; Jones and Sullivan 1989; Newman 1970). These molds allow bottles to be produced more quickly, with more uniformity, and with molded decoration and lettering. Two-piece molded bottles were produced in two main ways, the post-bottom and cup bottom process, with the post bottom mold being the earliest of the two beginning during the 1840s (Jones and Sullivan 1989).

Vessel lips/rims and bases also went through an evolutionary process as technology progressed. Initially bottles were cracked or cut off from the blow pipe at the neck leaving a rough edge that was sometimes fire polished or ground to make them smooth to form a lip or rim (1810-1870) (Jones and Sullivan 1989; Newman 1970). A ring or string of glass was often added to the neck of a bottle just below the lip after cracking or cutting off from the blow pipe (1810-1850) (Jones and Sullivan 1989).

Glass vessel lips and rims also were formed by folding over the neck edge to create a smooth rounded edge or a flange (1820-1870) (Deiss 1981). Later in the development of bottle finishes a separate piece of glass was applied to the neck of a bottle and then tooled to form a lip. Applied tooled lips generally date from the 1840s to 1913 and were most common prior to the 1880s (Newman 1970). Applied tooled lips were identified on two bottle lip fragments at the Lewis Pottery site. By 1870, glass was no longer applied to form a lip. A tool was used to make lips directly from the neck of the bottle, which resulted in an improved tooled lip (Deiss 1981). These types of bottle lips were most common from

the 1880s to early 1900s and were often used in conjunction with early machine-made containers. 18 examples of improved tooled lips were recovered from the site.

Early in the manufacture of glass vessels, they could only be made with the aid of a pontil, a long iron rod that was attached to the molten glass of the vessel to hold it in place for shaping and finishing after being free blown or molded. The pontil was typically attached to the base of the vessel. Once the vessel was finished, it would be removed from the pontil, leaving a mark of rough glass on the base (Jones and Sullivan 1989). This technique was used primarily from 1810 to 1870 (Newman 1970).

By the 1880s, machines were developed to make bottles, but some elements of the bottle were still completed by hand. Bottle-making machines were not fully automated until 1903 with the development of the Owens process, after which most containers were machine made (Miller 2000). A total of 15 machine-made vessels, exhibiting scars from the Owens process were found during the excavations at the site.

Another technological advancement in glass production was the development of new colors of glass (Table 4-6). Glass is naturally blue or green tinted (n=770) and adding chemicals changes its color. Aqua colored glass (n=1) also occurred naturally, but also could be created with addition of cobalt. Cobalt was used to manufacture blue colored glass prior to the 1800s. Dark cobalt blue glass was used after the 1860 to mass-produce medicine bottles for popular products like "Phillips Milk of Magnesia" and "Bromo Seltzer."

Brown colored glass (n=5) became popular in the late nineteenth century after being developed in the 1860s and was typically used in the manufacture of beer, cleaning fluid, and medicine bottles from the early 1900s to present day (Fike 1987).

Table 4-6. Glass Colors.

Color	Frequency*
Amber	1
Aqua	1
Blue Tint	47
Bright green	1
Brown	5
Clear	78
Green	1
Green Tint	723
Milk glass-white	4
Olive green	12
Total	**873**
*Represents number of sherds.	

Clear or colorless glass (n=78) had been produced prior to the 1860s through the manufacture of leaded glass (Table 4-6) (Jones and Sullivan 1989). Lead was used as a decoloring agent, which was expensive and not well-suited for the production of common bottles, but was widely used for producing decorative tablewares. Tablewares made of this type of colorless glass were common during early to mid-1800s. An inexpensive and

dependable means to achieve clear glass required the addition of chemicals to remove contaminants that altered color. By 1875, clear glass had attained widespread use in the production of bottles (Fike 1987).

Other glass colors recovered the site, included white milk glass, green, olive green, and Amber. Milk glass (n=1) was most often opaque white in color. It was popular from the 1860s to early 1900s and was used for a wide variety of vessels and objects. Although some bottles were made of it, milk glass was used mostly for decorative dishes in the early 1900s. Milk glass also was extensively used for buttons and canning jar lid liners, replacing more expensive porcelain ceramics. Lid liners were being used to line the inside of zinc metal canning jar lids by the 1870s and their use continued into the 1910s.

Glass tableware such as cups, tumblers, stemware, and serving dishes were common throughout the nineteenth century on America's dining tables. These were most often clear and decorated with cut or molded patterns. Tablewares, including bowls and stemware were recovered from the site.

Window glass fragments (n=700) also were recovered from the site. Most were green tinted (n=668), but some were blue tinted (n=30) and a couple were clear (n=2). The window glass ranges in thickness from 0.8 to 3.1 mm, with most (n=652) ranging from 1.1 to 2.0 mm in thickness.

METAL

Of the 314 metal artifacts recovered from the site, 92 percent (n=290) were assigned to the architecture group. Also represented were the activities (n=20), furniture (n=2), and personal (n=2) groups (Table 4-7). Nails are a common artifact at historic archaeological sites and often comprise most of the architecture group. Prior to 1800, nails had to be forged by hand and are classified as wrought nails. Hand-wrought nails have a relatively square shaft, an irregular head, and often a rounded and flattened out tip. At the turn of the nineteenth century, machine-cut nails were in production but were not widely used until the 1830s (Nelson 1968). Machine-cut nails (n=222) are cut from sheets of metal, giving the nail a square or rectangular shape.

Advancements in the technology of machine-cut nails allow distinctions between early (1800-1830) and late (1830-1890) manufacture (Adams 2002; Nelson 1968; Smith 1975). Early machine-cut nails are distinguished from "late-cut" nails by an indentation below the head where the nail was grasped for the heading process which was often done by hand. With subsequent technological advances, nails were completely made in one process; these specimens have a more regular head and lack the indentation in the shaft below the head (Nelson 1968). Due to their poor condition, most of the machine-cut nails could be distinguished between early and late types, however 40 were identified as late machine cut (Table 4-7). Others (n=26) were so eroded that they were classified as unidentified.

By 1890, wire nails became the preferred option for construction, although some machine-cut nails continued to be made into the 1890s (Adams 2002; Preiss 1973; Smith 1975; Wells 1998). Wire nails are cut from a linear wire and are still produced today. One wire roofing nail was recovered from the site.

Table 4-7. Metal Form/Objects.

Functional Group Metal Form/ Object	Frequency
Activities	
Flat metal	15
Unidentified	5
Subtotal	**20**
Architecture	
Nail-machine cut	222
Nail-machine cut-late	40
Nail-wire roofing	1
Nail-unidentified	26
Post anchor	1
Subtotal	**290**
Furniture	
Hardware-unidentified	1
Tack	1
Subtotal	**2**
Personal	
Button	2
Total	**314**

Activities artifacts, such as unidentified (n=5) and flat metal fragments (n=15) recovered from the site are objects that are commonly found around houses and yards, (Table 4-7). The metal furniture group artifacts consisted of an unidentified piece of furniture hardware and an upholstery tack. The personal group consisted entirely of buttons (n=2).

OTHER MATERIALS

Other materials recovered from the site were bone (n=362), wood (n=10), and composite wood and metal (n=1). All of the bone were faunal remains, most of which was probably related to food remains. The wood was all associated with a wood block mold with iron cladding (Figure 4-9). The mold was for a smoking pipe and was likely used to make the stoneware smoking pipes found at the site.

Figure 4-9. In-Situ Stoneware Wasters and Pottery Mold.

CHAPTER 5:
RESULTS

A total of 19 units were excavated during the investigations. Two of these were excavated at the north end of the stripped area around a small brick foundation exposed during stripping (Figure 5-1). These units were excavated to around 40 cm below the stripped surface (80 cm below the ground surface) and consisted of dark gray brown silt loam on the interior of the foundation and a mottled brown orange brown dark brown clay loam on the exterior. On the interior of the foundation circular row of brick was identified and based on the presence of late 1800s to early 1900s artifacts, it was determined that the foundation was associated with a post pottery cistern. Most of the late nineteenth to early twentieth century artifacts, nails, and window glass recovered during the investigations were found in these units (Tables 4-2 to 4-7).

The deposits and artifacts recovered from these units were most likely associated with residences and commercial buildings built on the site during the late 1800s after pottery manufacture ended. Because they were not associated with the pottery operation at the site, no further discussion of the cistern and the artifacts recovered from these two units will take place.

A linear block of 17 units were excavated within the stripped area to sample stratified deposits associated with the early to mid-nineteenth century pottery operation (Figures 5-1 and 5-2). A total of 20 master contexts was identified in this block excavation. Most of these related to the pottery operation at the site, representing 19 strata, five of which were associated with the fill of two features (Table 5-1). One master context (M15) represented an old archaeology test trench excavated in 2009. Each of these master contexts and the features are discussed below.

FEATURE 1 (PRIVY)

Feature 1 is an unlined privy pit identified towards the north middle portion of the linear excavation block at coordinate N64E4 (Figure 5-1). The north/south extent of the feature measured 75 cm in width. The entire feature was not exposed by the excavation and thus its east/west extent could not be determined, but it appears that it was likely rectangular in shape or perhaps was linear trench shaped, as it was present in both the east and west walls of the block. A 33 cm wide area of compact hard clay was identified along the north edge of the privy (Figures 5-3). A curb or lip was present along the north edge of this clay area and it appears that it was associated with the privy and likely served as platform for standing next to the privy during its use. The privy feature extended to a depth of 185 cm below the stripped surface. The feature itself appears to have been 135 cm from its top to the bottom. It had a flat base and contained three fills (M8, M9, and M12) and two post use overburden fills (M7 and M18) (Figure 5-5). These fills are discussed in more detail below.

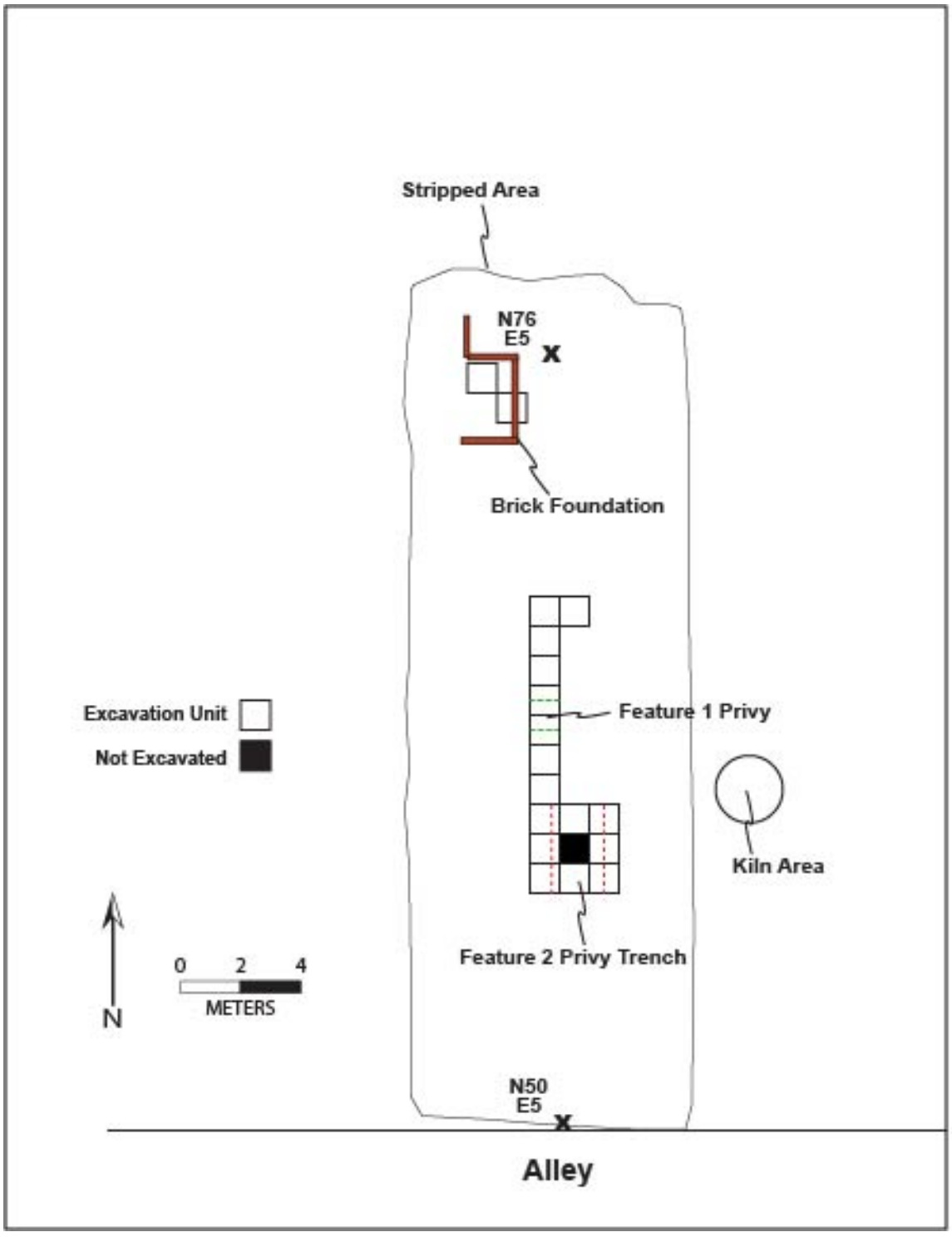


Figure 5-1. Site Map Showing the Location of Excavation Units and Features.

Figure 5-2. Work on the Excavation Block by the University of Louisville Field School.

Table 5-1. Master Contexts Identified.

Master Context	Description	Interpretation
1	Dark brown silt clay loam with brick rubble & coal	Demolition overburden
2	Mottled light brown/orange silt clay with brick	Clay overburden
3	Gray brown silt clay mottled w/brown silt clay-brick & coal	Waster midden
4	Mottled orange brown silt clay loam w/white and gray clay	Potter's clay deposit
5	Mottled orange brown & gray silt clay loam	Unidentified
6	Mottled dark gray brown & orange brown silt clay loam	Transition to subsoil
7	Mottled yellow brown & brown silt clay w/brick & mortar	Demolition deposit
8	Mottled gray & orange brown silt clay loam	Privy fill
9	Dark bray silt loam clay	Privy fill
10	Gray silt clay loam w/brick & charcoal flecks	Unidentified
11	Mottled orange brown silt clay w/iron oxide & M12	Unidentified
12	Dark brown loam-very loose	Privy nightsoil
13	Mottled orange brown silt clay loam w/white & gray clay-brick, coal	Potter's clay deposit
14	Mottled dark gray & orange brown silt clay loam	Privy fill
15	Mottled dark brown, orange brown, yellow brown silt clay-brick	Arch. trench backfill
16	Yellow brown silt clay w/brick	Privy fill
17	Yellow brown silt clay	Subsoil
18	Gray silt clay loam w/brick & charcoal	Waster midden
19	Mixed context M3, M13, M15	Mixed context
20	Mottled yellow/orange/brown silt clay	Unidentified

Figure 5-3. Photograph of Feature 1 (Privy) and Clay Platform Looking Southeast.

FEATURE 2 (PRIVY TRENCH)

Feature 2 is an unlined privy trench identified in the southern 3 x 3 m portion of the excavation block (Figure 5-1). The east/west extent of the feature was determined to range in width from 135 to 180 cm. The privy trench was oriented north/south, as its north/south extent could not be determined but was at least 300 cm in length. The feature extended to a maximum depth of 105 cm below the stripped surface and ranged in depth from 40 to 50 cm below the top of the feature (Figure 5-4). The feature had a relatively flat base that contained four privy fills (M12, M14, and M16) and one post use overburden fill (M13). M16 was only present in the north wall profile (Figure 5-4 and 5-7). These fills are discussed in more detail below.

MASTER CONTEXT 1 (M1)

Master Context 1 consisted of a modern demolition overburden layer. The matrix was a dark brown silty clay loam with brick, coal, and rubble inclusions. Master Context 1 was the uppermost layer in the excavation's stratigraphy and directly sealed Master Context 2, which was a layer of mottled clay overburden (Figures 5-5 and 5-7). A total of seven artifacts were recovered from Master Context 1 most of which were assigned to the activities group and included ceramic wasters (Table 5-2). Two sherds of English whiteware were the only diagnostic artifacts recovered, which provided a T.P.Q. date of

around 1830. Master Context 1 is the residual demolition overburden related to the construction of buildings at the site in the early twentieth century which was left during mechanical stripping of the area.

Figure 5-4. Photograph of Feature 2 (Privy Trench) Looking Southeast.

MASTER CONTEXT 2 (M2)

Master Context 2 was a clay overburden layer. The matrix was a mottled light brown-orange silt clay loam with brick inclusions. M2 was present at the top of the stripped surface over nearly the entire stripped area. It was identified 48 cm below the ground surface and was sealed in places by residual remnants of Master Context 1 and disturbed by M15 (an archaeological test trench along the east side of the stripped area) (Figure 5-1). M2 directly sealed M3, M4, and M10 (Figures 5-5 and 5-6).

A total of 695 artifacts were recovered from M2. The architectural group contained both structural fasteners and window glass, which would relate to this stratum's function as impacted by the demolition/construction of buildings. It also contained a lower percentage of activity functional group artifacts compared to other master contexts (Table 5-3). Diagnostic artifacts from Master Context 2 included machine cut and late machine cut nails from the architecture functional group. Given the dates associated with these artifacts, the T.P.Q. for this layer is 1830.

Table 5-2. Artifacts Recovered from Master Contexts 1-12.

Functional Group/ Artifact Description	Master Context									
	1	2	3	4	5	6	7	8	9	12
Activities										
Ceramic stoneware draw tile	0	0	8	0	0	0	0	0	0	0
Ceramic stoneware sagger	0	14	424	3	0	22	0	0	0	0
Ceramic stoneware slag	0	0	9	0	0	0	0	0	0	0
Ceramic stoneware spacer-flat	0	12	534	74	3	29	19	17	5	2
Ceramic stoneware spacer-jug	0	0	118	4	3	12	1	1	0	0
Ceramic stoneware spacer-rolled	0	0	32	10	0	3	2	1	0	0
Ceramic stoneware spacer-square tile	0	0	0	0	0	0	0	0	0	0
Ceramic stoneware stilt-handmade	0	0	119	13	0	1	0	0	0	0
Ceramic stoneware stilt-molded	0	0	317	9	3	0	0	0	0	0
Ceramic stoneware wad	0	27	456	27	8	9	16	1	0	4
Ceramic stoneware waster-unident.	3	172	2,146	255	35	54	44	33	16	123
Ceramic stoneware waster-bowl	0	0	94	0	0	0	0	5	0	0
Ceramic stoneware waster-handle	0	1	7	0	0	0	0	0	0	1
Ceramic stoneware waster-jar	0	0	56	0	0	0	0	14	0	75
Ceramic stoneware waster-jug	0	24	4	0	0	15	0	21	0	0
Ceramic stoneware waster-smoking pipe	0	17	29	5	0	0	2	0	0	0
Ceramic redware spacer-flat	0	1	83	12	0	0	0	0	0	0
Ceramic redware spacer-rolled	0	0	2	0	0	0	0	0	0	0
Ceramic redware waster-unident.	2	22	141	127	7	7	0	0	0	26
Ceramic redware waster-bowl	0	0	0	0	0	0	0	2	0	0
Ceramic redware waster-jar	0	0	0	0	0	0	0	0	0	0
Ceramic redware waster-jug	0	0	2	0	0	0	0	0	0	0
Ceramic redware waster-smoking pipe	0	0	7	0	0	0	0	0	0	0
Ceramic raw material	0	0	0	40	0	0	0	0	0	0
Ceramic whiteware prop	0	0	17	0	0	0	0	0	0	0
Ceramic whiteware spacer-flat	0	2	114	0	0	1	0	0	0	0
Ceramic whiteware spacer-rolled	0	0	5	0	0	0	0	0	0	0
Ceramic whiteware stilt-molded	0	0	1	0	0	0	0	0	0	0
Ceramic whiteware trivet	0	0	8	0	0	0	0	0	0	0
Ceramic whiteware wad	0	0	8	0	0	0	2	0	0	0
Ceramic whiteware waster unid.	0	146	14,958	63	6	167	13	2	7	1
Ceramic whiteware waster-bowl	0	0	56	0	0	0	0	0	0	0
Ceramic whiteware waster-cup	0	0	20	0	0	0	0	0	0	0
Ceramic whiteware waster-handle	0	0	122	0	0	0	0	0	0	0
Ceramic whiteware waster-pitcher	0	0	75	0	0	0	0	0	0	0
Ceramic whiteware waster-pipe	0	0	8	4	0	3	0	0	0	0
Ceramic unidentified waster-unident.	0	0	2	0	5	0	0	0	0	0
Ceramic yellowware waster-unident.	0	19	6	63	0	0	0	0	0	0
Ceramic yellowware waster-bowl	0	0	1	0	0	0	0	0	0	0
Ceramic yellowware waster- pipe	0	0	27	0	0	0	0	0	0	0
Metal, flat metal, unidentified	0	0	0	1	0	1	0	0	0	0
Metal, unidentified	0	0	1	0	0	0	0	4	0	0
Earth/stone, coal slag	0	0	214	4	0	1	0	0	0	0
Earth/stone, unidentified	0	2	0	0	0	0	0	0	0	0
Furniture										
Metal, hardware, unidentified	0	0	0	0	1	0	0	6	0	0
Metal, tack	0	1	0	0	0	0	0	0	0	0

Table 5-2. Continued.

Functional Group/ Artifact Description	Master Context									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**12**
Architecture										
Earth/Stone, brick	0	0	1	0	0	1	0	0	0	0
Earth/Stone, mortar	0	0	0	0	3	0	0	0	0	0
Glass, window glass	0	48	15	21	0	7	1	0	0	0
Metal, nail, machine-cut	0	7	68	12	0	2	3	6	1	9
Metal, nail, late machine-cut	0	9	1	0	5	9	0	0	0	1
Metal, nail, unidentified	0	0	0	0	0	1	0	17	0	0
Metal, nail, roofing	0	0	0	1	0	0	0	0	0	0
Metal, post anchor	0	0	0	0	0	0	0	0	0	1
Kitchen										
Ceramic, buff stoneware, jar	0	0	0	0	0	0	0	2	0	0
Ceramic, buff stoneware, jug	0	0	0	0	0	0	0	2	0	0
Ceramic, buff stoneware, unidentified	0	0	0	0	0	0	0	5	0	0
Ceramic, creamware, unidentified	0	0	0	0	0	0	0	4	0	0
Ceramic, gray stoneware, unidentified	0	0	1	0	0	0	0	0	0	0
Ceramic, pearlware, soup plate	0	0	0	0	0	0	0	2	0	0
Ceramic, pearlware, unidentified	0	0	4	0	0	0	0	2	0	0
Ceramic, porcelain, unidentified	0	0	3	0	0	0	0	0	0	1
Ceramic, redware, unidentified	0	0	3	0	0	0	0	0	0	0
Ceramic, whiteware, unidentified	2	90	50	15	0	0	0	0	3	1
Ceramic, white granite, unidentified	0	1	0	1	0	0	0	0	0	0
Ceramic, yellowware, unidentified	0	0	3	0	0	0	0	0	0	0
Glass, bottle, olive green	0	2	2	0	0	0	0	0	0	0
Glass, bottle, clear	0	0	1	0	0	0	0	0	0	0
Glass, unidentified, aqua	0	1	0	0	0	0	0	0	0	0
Glass, unidentified, blue tint	0	2	0	0	0	0	0	0	0	0
Glass, unidentified, green tint	0	2	2	0	0	0	0	0	0	0
Glass, unidentified, olive green	0	1	0	0	0	0	0	0	0	0
Personal										
Ceramic, redware, smoking pipe	0	0	1	0	0	0	0	0	0	0
Metal, button	0	0	0	2	0	0	0	0	0	0
Faunal	0	72	24	29	7	32	0	6	1	14
Total	**7**	**695**	**20,410**	**795**	**86**	**377**	**103**	**153**	**33**	**259**
Counts reflect number of sherds.										

Master Context 2 represents a construction overburden layer following the end of the pottery activities which could have disturbed earlier pottery deposits. The location of this layer above M10, where a sherd of stoneware marked with "Doane and Hancock" was found, dates this layer to after 1840 (Figure 4-2). It is most likely related to the construction and demolition of houses on the site in the second half of the nineteenth century.

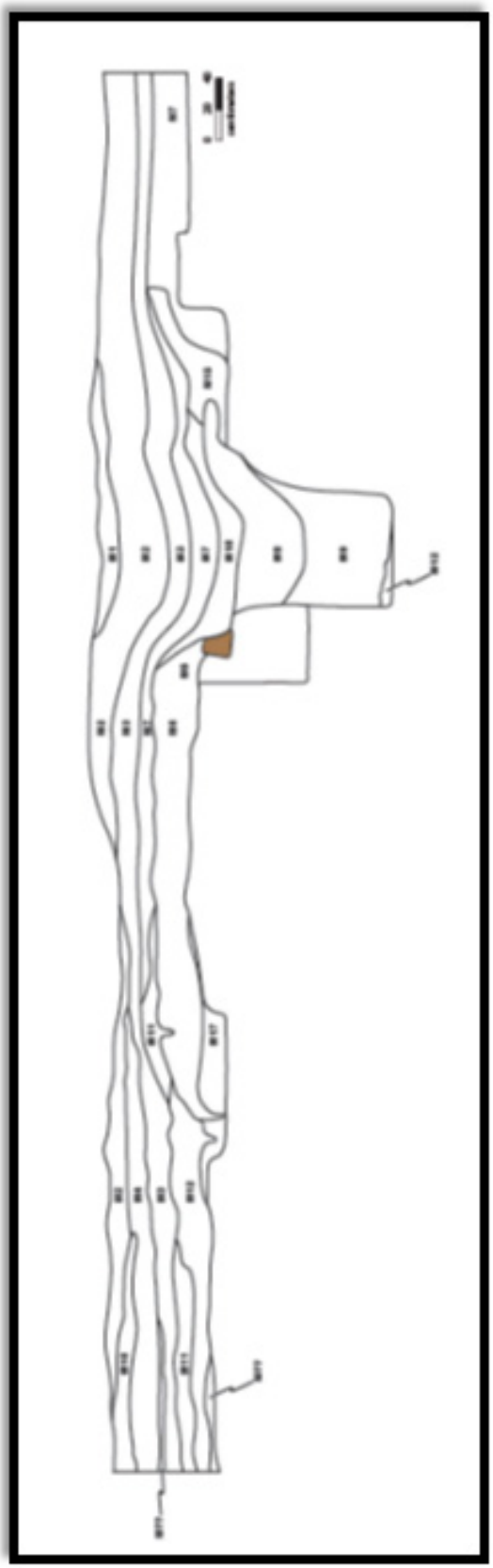


Figure 5-5. West Wall Profile Showing Master Contexts.

Figure 5-6. Photograph of the West Wall Profile Looking Southwest.

MASTER CONTEXT 3 (M3)

Master Context 3 is identified as a waster midden with mottled grey-brown and brown silt clay with brick and coal inclusions. M3 was identified over the entire stripped area and was sealed by M2 and M4. It overlaid M6, M7, M11, M12, M13, and M16. M15 cut through M3 (Figures 5-5 and 5-6).

A total of 20,410 artifacts was recovered from M3, most of which were assigned to the activities functional group. These artifacts related to manufacturing/processing secondary functional group associated with the pottery making process and included kiln furniture and ceramic wasters (Tables 5-2 and 5-3). Most of these were made of whiteware, however stoneware, redware, and yellowware also were represented (Table 5-4). The diagnostic artifacts from M3 included machine cut and late machine cut nails assigned to the architecture group and transfer-printed whiteware and pearlware sherds assigned to the kitchen functional group. Based on these artifacts, the T.P.Q. for the context is approximately 1830.

The large percentage of American whiteware wasters recovered from M3 in combination with its location above two demolition/construction layers (M7 and M13), suggest that it was deposited sometime after the documented construction of the new glost kiln in 1832 (see Chapter 2) (Table 5-2). A glost kiln was a special type of kiln used

specifically in the production of whiteware. This layer represents the period associated with the use of the glost kiln and the disposal of whiteware wasters created with it. This layer was likely the final depositional episode deposited while Lewis was at the pottery.

Table 5-3. Functional Group Percentages by Master Context.

Master Context	Functional Group					
	Act.	Arch.	Furn.	Kit.	Pers.	Faunal
1	71.4	0.0	0.0	28.6	0.0	0.0
2	66..0	9.2	0.1	14.2	0	10.4
3	99.1	0.4	0.0	0.3	<0.1	0.1
4	89.8	4.3	0.0	2.0	0.3	3.6
5	81.4	9.3	1.2	0.0	0.0	8.1
6	89.4	2.6	0.0	0.0	0.0	7.9
7	96.1	3.9	0.0	0.0	0.0	0.0
8	66.6	15.0	0.0	14.0	0.0	3.9
9	84.9	3.0	9.0	0.0	0.0	3.0
12	89.5	4.2	0.0	0.8	0.0	5.4
13	98.9	0.9	0.0	0.0	0.0	0.2
14	51.7	3.4	0.0	44.6	0.0	0.3
15	89.6	1.6	0.0	7.3	0.1	0.8
16	83.5	7.1	0.0	1.2	0.0	7.1
18	96.2	0	0.0	0.0	0.0	8.8
19	90.0	6.7	0.0	3.3	0.0	0.0
20	92.7	7.3	0.0	0.0	0.0	0.0

Table 5-4. Waster Ceramic Type Percentages by Master Context.

Master Context	Ceramic Type			
	White Ware	Stone Ware	Red Ware	Yellow Ware
1	0.0	60.0	40.0	0.0
2	36.4	53.4	5.5	4.7
3	83.8	14.7	1.3	0.2
4	12.9	50.3	24.5	12.1
5	12.5	72.9	14.6	0.0
6	69.0	28.0	3.0	0.0
7	24.6	75.4	0.0	0.0
8	1.9	96.1	1.9	0.0
9	30.4	69.6	0.0	0.0
12	0.4	88.0	11.6	0.0
13	80.4	19.4	0.0	0.0
14	0.0	96.1	4.9	0.0
16	31.9	68.1	0.0	0.0
18	1.45	97.1	1.45	0.0
20	4.4	88.9	6.6	0.0

MASTER CONTEXT 4 (M4)

Master Context 4 is defined as a potter's clay deposit that consisted of a mottled orange-brown silty clay loam with inclusions of gray and white potter's clay, brick, and ceramic wasters. It was located along the southern and western walls of the south 3 x 3 m excavation block. Master Context 4 was sealed by M2 and M10 and seals M3. It was partially disturbed M15 (Figure 5-5).

A total of 795 artifacts was recovered from M4. The majority of these were related to the pottery's operation as reflected by the high percentage of activities functional group artifacts, including kiln furniture and ceramic wasters (Tables 5-2 and 5-3). While a variety of ceramic paste types were identified, the majority were stonewares (Table 5-4). Diagnostic artifacts identified from this context include machine cut nails assigned to the architecture group, and English whiteware that was hand-painted, transfer-printed, and edge decorated blue unscalloped with impressed curved lines assigned to the kitchen group. The dates of manufacture of these artifacts range from 1830 to 1880, which produced a T.P.Q. of 1830 for this context.

M4 is a potter's clay layer that overlays the waster midden in Master Context 3. The wasters recovered from this layer indicate that the pottery was still active at the time of its deposition, with American whiteware in addition to stoneware continuing to be produced. Because M4 overlays M3 and M13, both of which have T.P.Q.s of 1830 and both of which have American whiteware present, M4 was likely deposited several years after its T.P.Q. of 1830. The smaller percentage of American whiteware found in MC4 versus those seen in MC13 or MC3 (Table 5-4) could indicate that the potters were scaling back whiteware production, or that, with Lewis gone, subsequent potters focused on stoneware as their primary product.

MASTER CONTEXT 5 (M5)

Master Context 5 was an isolated deposit of mottled orange and gray silt clay loam that was sealed by M7. It was a deposit situated between M6, a transition to subsoil and M18, a deposit within a possible privy feature (Figure 5-5).

A total of 86 artifacts were recovered from M5 most of which were assigned to the activities functional group with all being associated with the pottery manufacturing process (Table 5-2). A significant percentage of architecture functional group also was recovered from this context and included mortar and machine cut nails (Table 5-3). This context also consisted of higher percentages of stoneware and redware wasters compared to American whiteware wasters (Figure 5-4). Several diagnostic artifacts were recovered from M5 including late machine cut nails assigned to the architecture group and transfer-printed pearlware sherds assigned to the kitchen group. Based on the dates associated with these artifacts, the artifacts in this layer suggest a T.P.Q. around 1830.

M5 appears to represent a disturbance to M6 perhaps when the privy feature was constructed. Given that it contains mostly stoneware pottery wasters and kiln furniture, it

is likely that the deposit was associated with a period when stoneware production at the pottery was prevalent. The comparatively lower density of artifacts also indicates that the context could have been deposited rather quickly, which would not have provided much time for a large accumulation of pottery debris to accumulate. The presence of some architecture group artifacts could indicate that the deposit may also be related to architectural changes at the pottery, such as the construction of the adjacent privy (Feature 1: M8, M9, and M12) (Figure 5-5). The deposit likely occurred sometime during the early period of the pottery's operation during the 1820s.

MASTER CONTEXT 6 (M6)

Master Context 6 consisted of a mottled dark gray brown and orange brown silt clay loam matrix. This context is a transition to subsoil (M17). This context seals M17 but is cut by M5 and M8 around the privy (Feature 1) and is sealed by M7, M11, and M12 (Figure 5-5).

M6 included a total of 377 artifacts, most of which were assigned to the activities functional group representing the pottery manufacturing process (Tables 5-2 and 5-3). The presence of a significant percentage of American whiteware and stonewares indicate that production of both wares took place in association with the deposition of this context (Table 5-4). However, the density of these was comparatively much smaller to waster deposits which would be expected for transitional soils between artifact rich deposits and sterile subsoil. Architecture group artifacts and faunal remains also were well represented in M6, as they were in layers overlying this context. The only diagnostic artifacts from this context were machine cut and late machine cut nails assigned to the architecture group. Given their date range of 1830 to the 1880s, a T.P.Q. date of 1830 was acquired for this layer.

Although M6 has a T.P.Q. of 1830, this context is likely older than that. Its proximity to M3 (the American whiteware waster midden) accounts for the presence of American whiteware sherds in the deposit. Their presence in M6 is likely the result of geological processes in the soil that caused the artifacts to migrate from the location in which they were initially deposited. Although American whiteware was recovered from this layer, they were isolated to the northern portion of the excavation area where M6 was directly overlaid by M3, an extremely dense American whiteware waster midden layer. The whiteware present in M6 is therefore likely the result of contamination common with transitional deposits. This interpretation is supported by the observation that layers excavated within this master context revealed a decrease in artifact density with depth closer to subsoil (M17). Also stratigraphically M6 is cut by Feature 1 indicating that M6 was present when this early privy was created. Although the artifact assemblage from this context does not reveal much about the early occupation of the pottery at the site, it does indicate that the pottery, represented by kiln furniture and ceramic wasters, and its related domestic activities (faunal remains, structural fasteners, and window glass) are the first archaeologically-visible historic occupations at this site.

MASTER CONTEXT 7 (M7)

Master Context 7 is a brick and mortar rubble layer that consisted of a mottled yellow brown and brown silty clay. It was sealed by M3 and overlays M5, M6, and M11, including the Feature 1 (a privy) (Figures 5-5 and 5-7).

M7 included a total of 103 artifacts, most of which were assigned to the activities and architecture functional groups (Table 5-3). Both kiln furniture and ceramic wasters were recovered, with the majority of waster paste types being stoneware although American whiteware was also present (Tables 5-2 and 5-4). The architecture group was represented by nails and window glass. Machine cut nails were the only diagnostic artifacts in the context. Machine cut nails were manufactured from 1790 to 1880 (Smith 1975:5-7), but the presence of American whiteware dates this layer to post-1829 when the first documented whiteware production attempts were made at the site. Additionally, the high occurrence of brick and mortar in the soil indicate the stratum was likely associated with a construction or demolition episode. Based on the relative positions of M3, a dense whiteware waster midden located above M7, and privy fill (M8) which included low densities of whiteware wasters, M7 was likely related to the construction of the glost kiln in 1832.

Figure 5-7. Photograph of the East Wall Profile of Feature 2 (Privy) Showing M3, M7, M18, M8, and M9.

MASTER CONTEXT 8 (M8) – FEATURE 1

This context, a privy fill, is a mottled gray and orange brown silt clay loam. This layer seals the lower half of the privy fill, M9. M8 is sealed by M18 and seals M9 (Figures 5-5 and 5-7).

Master Context 8 contained a total of 153 artifacts, with comparatively high percentages of kitchen and architecture artifacts and relatively low percentages of activity group artifacts (Tables 5-2 and 5-3). Architecture group consisted of structural fasteners including unidentified and machine cut nails. The kitchen group included storage and preparation vessels as well as tableware vessels. The activities group consisted of kiln furniture and waster ceramics, with stoneware varieties being the most prominent but American whiteware sherds being recovered, too (Figure 5-4). The diagnostic artifacts from this context included machine cut nails assigned to the architecture group, shell-edged pearlware sherds, and transfer-printed English whiteware assigned to the kitchen group. These artifacts provide a T.P.Q. of 1830 for this context.

While diagnostic artifacts indicate a deposition date after 1830, this context was likely related to a filling episode following the abandonment of the privy between 1829 and 1832. The low percentage of American whitewares in the fill indicates that the privy was filled purposefully and quickly with available materials, such as kitchen refuse and architectural debris, rather than a long, slow deposition of pottery-related material.

MASTER CONTEXT 9 (M9) – FEATURE 1

Master Context 9 is a dark gray silt clay loam privy fill. This context represents the most extensive fill within the privy feature and is capped directly by M8 (Figures 5-5 and 5-7).

M9 included a total of 33 artifacts with relatively high proportions of activities, kitchen, and faunal group artifacts being observed (Tables 5-2 and 5-3). English whiteware tablewares and faunal remains from the context indicate the influence of non-industrial activities. However, kiln furniture and ceramic wasters were recovered, with both stoneware and American whiteware being represented (Table 5-4).

A machine cut nail assigned to the architecture functional group and transfer-printed English whiteware sherds assigned to the kitchen group were the only diagnostic artifact recovered from M9. These artifacts' manufacture dates provide a T.P.Q. date of 1830.

The T.P.Q. and the presence of American whitewares in M9 definitely date this layer to post-1830, however, because this context is a privy fill, it could have been deposited over several years, with the deposition of the diagnostic, post-1830 artifacts occurring towards the later part of the feature's history. The higher percentage of American whiteware sherds in this context as compared to the context that seals it, M8, could indicate that this depositional episode is more likely to have occurred early in the Lewis Pottery's

attempt to produce whitewares – between 1829 and 1836. The privy appears to have been used and abandoned during this period.

MASTER CONTEXT 10 (M10)

Master Context 10 consists of a gray silt clay loam with brick and charcoal inclusions visible in the matrix. This layer occurs at the surface of the excavation, where it is overlain in some places by M2 and seals M4 (Figure 5-8).

Because this context represented residual deposits from the removal of overburden and was mixed with demolition overburden, no artifacts were collected, however kiln furniture and stoneware wasters were noted including a stoneware sherd with the mark "Doane and Hancock" that was collected as part of a surface collection after stripping (Figure 4-2). Given the documented presence of Doane and Hancock at the site in 1840, this layer must have occurred between 1840 and the late 1850s when ceramic production at the pottery ceased based on historical records.

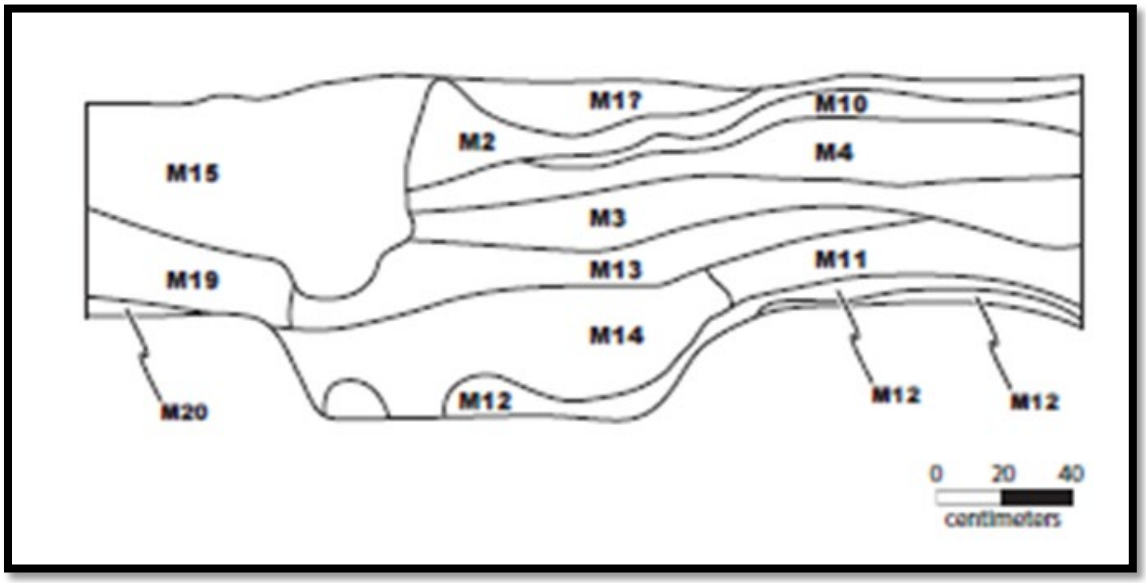


Figure 5-8. South Wall Profile of Excavation Block Showing Master Contexts.

MASTER CONTEXT 11 (M11)

Master Context 11 is identified by its mottled orange-brown silty clay matrix with inclusions of iron oxide. It also was mixed in places with M12 Feature 2 was identified at the base of the excavations. M11 was present in south half of the site where it was overlain by M3 and M13 and sealed M6, M12, and M17. It also was cut in places by M 14 (Figure 5-8).

M11's soil characteristics and lack of artifacts points to a natural deposition of silt at the site. Because M11 was found in what would have been low-lying areas, the

possibility for silt deposition due to rain is high. Specifically, the presence of M11 above the trench privy feature on the southern end of the site indicates that the low-lying privy trench was exposed long enough for soil to wash into the depression and fill it. This situation indicates that the privy trench was not enclosed and exposed to the elements. Following the deposition of the silt, the privy feature was cleaned out and refilled with M14. Based on the artifact contents of M14, the deposition of this layer predates the American whiteware production at the site, indicating that it was deposited between 1815 and 1829.

MASTER CONTEXT 12 (M12) – FEATURE 1 AND 2

Master Context 12 is identified by a dark brown loose loam that appears mainly in the southern portion of the excavated area within the privy trench feature (Feature 2). A small deposit of M12 was identified within the base of the other privy (Feature 1). M12 was located just overlying the subsoil (M17) and was capped by M3, M11, and M14 (Figures 5-5, 5-7, and 5-8).

A total of 259 artifacts was collected from M12 (most from Feature 2), with a relatively a high percentage of faunal remains present (Tables 5-2 and 5-3). The activities functional group was average compared to other contexts at the site, with both kiln furniture and ceramic wasters being recovered. Stoneware, redware, and American whiteware were recovered, although American whiteware has an extremely low frequency (Table 5-4). Additionally, the presence of kitchen group tablewares and faunal remains helps characterize the functional of this context.

Diagnostic artifacts from the M12 assemblage include machine cut and late machine cut nails assigned to the architecture group and annual banded English whiteware assigned to the kitchen group. These artifacts provide a T.P.Q. date of 1830 for both diagnostic artifacts, indicating that this earliest deposit in the privies likely occurred sometime around or after that date.

The consistency and characteristics of this layer identify it was night soil from a privy, and the layer's location in and around the trench support this theory. The presence of M12 outside the trench could be due to an overflowing of the privy feature at one time. This layer was likely deposited prior to and/or at least during the earliest whiteware production. Much of this layer would have been removed during the cleaning of the privy and replaced with MC14. The high percentages of kiln furniture and ceramic wasters in the privy fill, however, indicate that this layer does date to the pottery occupation, most likely between 1815 and 1832.

MASTER CONTEXT 13 (M13) – FEATURE 2

Master Context 13 is located at the south end of the excavation area sealing M12, M14, and M16, all fill within Feature 2, a privy trench, at the base of excavations and M 11. M13 consists of a mottled orange-brown silty loam matrix with dense inclusions of bricks, coal, and potters clay. This context is sealed by M3 and M15 (Figure 5-8).

A total of 544 artifacts was recovered from M13, most of which were assigned to the activities functional group, which included mainly kiln furniture and ceramic wasters, with American whiteware being the predominant ceramic paste type (Tables 5-3, 5-4, and 5-5). Stoneware also was present. Although the percentage of architecture group artifacts is rather low, there was a large amount of brick observed in the matrix which were not collected. Machine-cut nails were the only diagnostic artifacts recovered from M13. The manufacture dates of machine-cut nails indicate that the context could have been deposited anytime during the pottery's existence. The manufacture of American whiteware, however, did not begin at the site until 1829 with the arrival of Vodrey and Frost, meaning this context must have been deposited after that date.

M13, like M7, is probably related to the documented construction of the glost kiln in 1832. The presence of bricks, coal, and potter's clay, yet the absence of window glass that might indicate the construction or demolition of a building, points to the construction of the kiln. The high percentage of American whiteware sherds in the layer would be attributed to the increased production of whiteware at the site following the new kiln's construction. This context appears to have been a fill episode within a slight depression that formed over the Feature 2 privy deposits as they settled.

MASTER CONTEXT 14 (M14) – FEATURE 2

Master Context 14 is a mottled dark gray and orange brown silty clay loam located in the south 3 x 3 m block as the north-south privy trench (Feature 2) fill. It is sealed by M13 and M16 and overlays M12. It cuts through M11 (Figure 5-8).

M14 exhibited a relatively high percentage of kitchen group artifacts and low percentage of activities group artifacts from the 294 artifacts collected (Table 5-3). The activities group consisted of kiln furniture and ceramic wasters, most of which were stoneware while no American whiteware was present (Table 5-4). The kitchen group contained storage and tableware artifacts in the highest frequencies seen anywhere on the site (Table 5-5). Diagnostic artifacts from M14 included machine cut nails and undecorated and transfer-printed English whitewares assigned to the kitchen group. Based on these artifacts the T.P.Q. for this context is around 1830, indicating that it was deposited sometimes after that date.

The location of this master context at the bottom of the trench feature indicates that it was one of the first deposited layers in the feature after the M12 nightsoil. The absence of American whiteware wasters, the abundance of finished stoneware, and the presence of stoneware wasters indicate that this deposition could indicate both a domestic component and production by the Lewis Pottery prior to its foray into American whiteware manufacture. This would date this layer to between 1815 and 1829. The presence of the single transfer-printed whiteware sherd could be the result of an early production sequence of English whiteware prior to 1830 when English whiteware ceramics became popular in the United States. M14 likely dates to between 1810 and 1830.

Table 5-5. Artifacts Recovered from Master Contexts 13-20.

Functional Group/ Artifact Description	Master Context						
	13	14	15	16	18	19	20
Activities							
Ceramic stoneware draw tile	0	0	0	0	0	0	0
Ceramic stoneware sagger	26	0	9	0	0	0	0
Ceramic stoneware slag	0	0	0	0	0	0	0
Ceramic stoneware spacer-flat	38	8	38	6	49	3	5
Ceramic stoneware spacer-jug	11	2	28	6	31	1	0
Ceramic stoneware spacer-rolled	1	0	5	0	10	0	1
Ceramic stoneware spacer-square tile	0	0	0	0	1	0	0
Ceramic stoneware stilt-handmade	0	0	12	0	0	0	0
Ceramic stoneware stilt-molded	4	0	40	5	10	0	0
Ceramic stoneware wad	25	2	46	4	11	1	0
Ceramic stoneware waster-unident.	66	56	509	30	65	14	20
Ceramic stoneware waster-bowl	0	0	17	0	0	0	0
Ceramic stoneware waster-handle	1	0	2	0	1	0	1
Ceramic stoneware waster-jar	0	22	51	0	0	0	11
Ceramic stoneware waster-jug	0	17	0	0	1	0	6
Ceramic stoneware waster-smoking pipe	2	0	19	2	0	0	2
Ceramic redware spacer-flat	0	0	0	0	0	0	0
Ceramic redware spacer-rolled	0	0	0	0	0	0	0
Ceramic redware waster-unident.	0	0	17	0	1	1	3
Ceramic redware waster-bowl	0	0	0	0	0	0	0
Ceramic redware waster-jar	0	44	0	0	0	0	0
Ceramic redware waster-jug	0	0	0	0	0	0	0
Ceramic redware waster-smoking pipe	0	0	0	0	0	0	0
Ceramic raw material	0	0	2	0	0	0	0
Ceramic American whiteware prop	0	0	0	0	0	0	0
Ceramic American whiteware spacer-flat	10	0	8	2	0	0	0
Ceramic American whiteware spacer-rolled	0	0	0	0	0	0	0
Ceramic American whiteware stilt-molded	0	0	0	0	0	0	0
Ceramic American whiteware trivet	0	0	0	0	0	0	0
Ceramic American whiteware wad	69	0	0	0	3	0	0
Ceramic American whiteware waster-unident.	254	0	117	15	1	7	2
Ceramic American whiteware waster-bowl	0	0	0	0	0	0	0
Ceramic American whiteware waster-cup	0	0	0	0	0	0	0
Ceramic American whiteware waster-handle	0	0	0	0	0	0	0
Ceramic American whiteware waster-pitcher	0	0	0	0	0	0	0
Ceramic American whiteware waster-smk. Pipe	0	0	0	0	0	0	0
Ceramic unidentified, waster-unident.	0	0	0	1	0	0	0
Ceramic yellowware waster-unident.	0	0	5	0	0	0	0
Ceramic yellowware waster-bowl	0	0	0	0	0	0	0
Ceramic yellowware waster-smoking pipe	0	0	0	0	0	0	0
Metal, flat metal, unidentified	10	0	0	0	0	0	0
Metal, unidentified	0	0	0	0	0	0	0
Metal & Wood, pottery mold	0	1	0	0	0	0	0
Earth/stone, coal slag	21	0	17	0	19	0	0
Architecture							
Earth/Stone, brick	0	0	0	0	0	0	2
Glass, window glass	0	1	9	0	0	2	0
Metal, nail, machine-cut	5	1	7	6	0	0	2
Metal, nail, late machine-cut	0	0	1	0	0	0	0
Metal, nail, unidentified	0	8	0	0	0	0	0

Table 5-5. Continued.

Functional Group/ Artifact Description	Master Context						
	13	14	15	16	18	19	20
Kitchen							
Ceramic, buff stoneware, churn	0	7	0	0	0	0	0
Ceramic, buff stoneware, jar	0	37	0	0	0	0	0
Ceramic, buff stoneware, storage jar/crock	0	24	0	0	0	0	0
Ceramic, buff stoneware, unidentified	0	27	0	0	0	0	0
Ceramic, creamware, unidentified	0	0	0	0	0	0	0
Ceramic, gray stoneware, jar	0	11	0	0	0	0	0
Ceramic, gray stoneware, unidentified	0	13	0	0	0	0	0
Ceramic, multi stoneware, unidentified	0	3	0	0	0	0	0
Ceramic, pearlware, soup plate	0	0	0	0	0	0	0
Ceramic, pearlware, unidentified	0	0	0	0	0	0	0
Ceramic, porcelain, unidentified	0	0	3	0	0	0	0
Ceramic, redware, unidentified	0	7	0	0	0	0	0
Ceramic, whiteware, plate	0	0	1	0	0	0	0
Ceramic, whiteware, unidentified	0	2	17	1	0	1	0
Ceramic, white granite, unidentified	0	0	14	0	0	0	0
Ceramic, yellowware, unidentified	0	0	0	0	0	0	0
Glass, bottle, olive green	0	0	1	0	0	0	0
Glass, bottle, clear	0	0	1	0	0	0	0
Glass, bottle, bright green	0	0	1	0	0	0	0
Glass, unidentified, blue tint	0	0	4	0	0	0	0
Glass, unidentified, brown	0	0	1	0	0	0	0
Glass, unidentified, clear	0	0	38	1	0	0	0
Glass, unidentified, green tint	0	0	0	0	0	0	0
Glass, unidentified, green	0	0	1	0	0	0	0
Glass, unidentified, milk glass-white	0	0	3	0	0	0	0
Personal							
Ceramic, button	0	0	1	0	0	0	0
Faunal	1	1	8	6	8	0	0
Total	**544**	**294**	**1,053**	**85**	**211**	**30**	**55**
Counts reflect number of sherds.							

MASTER CONTEXT 15 (M15)

Master Context 15 is fill from an archaeological backhoe trench excavated in 2009 to examine the deposits under a recently demolished building for possible additional archaeological investigations (Figures 5-8). A total of 1,053 artifacts were recovered from this fill during excavations in the south 3 x 3 m block area (Table 5-5). Since the fill is a mix of the deposits in that portion of the site it included mainly activities group and kitchen group artifacts associated with the pottery manufacturing process and domestic activities during and afterwards.

MASTER CONTEXT 16 (M16) – FEATURE 2

The matrix of Master Context 16 is a yellow brown silt clay with brick inclusions. It was part of the privy trench fill (Feature 2) and is sealed by M3 and M13 and itself overlays M14 (Figure 5-9). M16 was isolated to the southern wall of the south 3 x 3 m block excavation area and was not present in the profile at the north end of the block.

A total of 85 artifacts was recovered from M16. Despite this low density, M16's artifact assemblage contains similar percentages of activities group artifacts as other contexts (Tables 5-3 and 5-5). While kiln furniture was present, the majority were waster sherds made of stoneware, although American whiteware wasters still account for approximately one-third of the wasters recovered (Table 5-4). Diagnostic artifacts recovered from M16 were architecture group machine cut nails providing a T.P.Q. of 1830, indicating that the context was deposited sometime after that date.

The relative abundance of American whiteware wasters in this context (nearly one-third of the wasters recovered) might indicate that at the time this context was deposited the pottery was making a serious effort at producing American whitewares. The inclusion of both buff and gray stonewares in the layer also indicates that the pottery had not abandoned the stoneware side of the business. However, the overall low density of artifacts indicates that this layer is most likely related to the filling of the privy trench at its abandonment.

Figure 5-9. Photograph of the North Wall Profile of Feature 2 (Privy).

MASTER CONTEXT 17 (M17)

Master Context 17 is a yellow brown silt clay sterile subsoil.

MASTER CONTEXT 18 (M18) – FEATURE 1

Master Context 18 is a gray silt clay loam with brick and charcoal inclusions. M18 is a thin layer located below M7 and above M8, the privy fill. It was isolated to just above the privy feature and cuts through M6 (Figures 5-5 and 5-7).

A total of 211 artifacts was recovered from M18. The activities group was most represented, which included both kiln furniture and ceramic wasters (Table 5-5). Stoneware, redware, and American whiteware ceramic waster paste types were all collected from this context (Table 5-4). No diagnostic artifacts were recovered from this context.

Although M18 lacked diagnostic artifacts, the presence of kiln furniture and wasters indicate that it dates to the site's pottery occupation. This interpretation is based on these artifacts and its stratigraphic position above M8 and M9 and below M7, contexts with diagnostic artifacts. M18 is related to the filling of the privy but has more artifacts than the layers below it (M8 and M9), indicating that it was probably not a rapid deposition. It is likely that M18 is a fill within a slight depression over the existing privy deposits that formed as these deposits settled over time.

MASTER CONTEXT 19 (M19)

Master Context 19 is situated below M15 and seals M20. It was isolated to the southeastern corner of the south 3 x 3 m block excavation at the corner of M3 and M13 where they are intersected by M15 (Figure 5-6). M19 cuts M13 and appears to be a disturbance in this portion of the area and its fill is a mixed context containing artifacts from Master Contexts 3, 13, and 15.

A total of 30 artifacts were sampled from M19. Nearly all were ceramic kiln furniture or wasters assigned to the activities group (Table 5-5). The architecture and kitchen groups were minimally represented (Table 5-3). A single sherd of English whiteware recovered from this context provides a T.P.Q. date of 1830.

M19 appears to be an intrusion into the existing deposits in this area prior to the excavation of the archaeology test trench (M15), perhaps associated with the foundation of the building that once existed over this portion of the site.

MASTER CONTEXT 20 (M20)

Master Context 20 is a mottled yellow-orange-brown silt clay. It is sealed by M15 and M19 but does not seal any other contexts. It was isolated to the southeast corner of the south 3 x 3 m excavation block area (Figure 5-6).

A total of 55 artifacts was collected from this context which were mostly assigned to the activities functional group, including both kiln furniture and ceramic wasters (Tables 5-3 and 5-5). The ceramic wasters were made of stoneware, redware, and small amounts of American whiteware (Table 5-4). No diagnostic artifacts were recovered from M20.

Based on the kiln furniture and stoneware wasters, this context likely dates to the period during which the pottery was operating. The location of the layer above subsoil and the lack of whiteware sherds indicates that this layer was probably deposited during the early stoneware production period, before the full scale whiteware production began.

CHAPTER 6:
ANALYSIS AND INTERPRETATIONS

ANALYSIS

The stratigraphic analysis of the Lewis Pottery site has revealed a great deal of information regarding the site's whiteware production, including its relation to the stoneware production at the pottery and the viability of the whiteware produced. Based on the contexts observed at the site, five distinct chronological and functional periods have been identified related to the pottery's operation. This stratigraphic analysis has helped to identify and temporally assign deposits to periods associated with various aspects of the pottery's operation. These deposits included two privies used during the early stoneware production period of the pottery and the early whiteware production period, respectively, a general refuse disposal area used during the early whiteware production period, a debris area related to the construction of the glost kiln, a whiteware waster dump, and a stoneware dump following the end of the whiteware production period. A more in-depth look at these deposits, their function, and their chronology reveals information about the Lewis Pottery's operation and the challenges for producing and selling domestic whiteware.

Based on the stratigraphic analysis of the deposits investigated at the Lewis Pottery, five phases or periods of the pottery's operation have been developed (Figure 6-1). Each of these phases are discussed below beginning with Phase V, the earliest.

Phase V: Pre-Whiteware Produciton (1815-1829)

The oldest stratigraphic sequence at the site is seen in the creation of M6, which represents a natural transition to subsoil layer that has been impacted by later artifact depositions. This fact was derived from the gradually decreasing density of artifacts vertically through the layer. The construction of the privy trench (Feature 2) followed the cultural impacts to the transitional layer. The construction and subsequent filling of the trench feature was the first depositional episode in the stratigraphic sequence. The trench feature, which runs north-south along the western wall of the south block excavation, was filled during the early pottery phase. This period lasted from 1815 to 1829, when Lewis established the pottery and then began producing whiteware ceramics at the site. While the date of the construction of the privy trench (Feature 2) is unknown, it could possibly represent a privy for the pottery workers during the initial stoneware production at the pottery.

Master Context 12, one of the earliest deposits in the excavation, is a nightsoil layer related to this privy, representing the primary use of this feature for human excrement disposal. The privy likely overflowed its original shallow trench, causing it to be present outside of and over the trench edges.

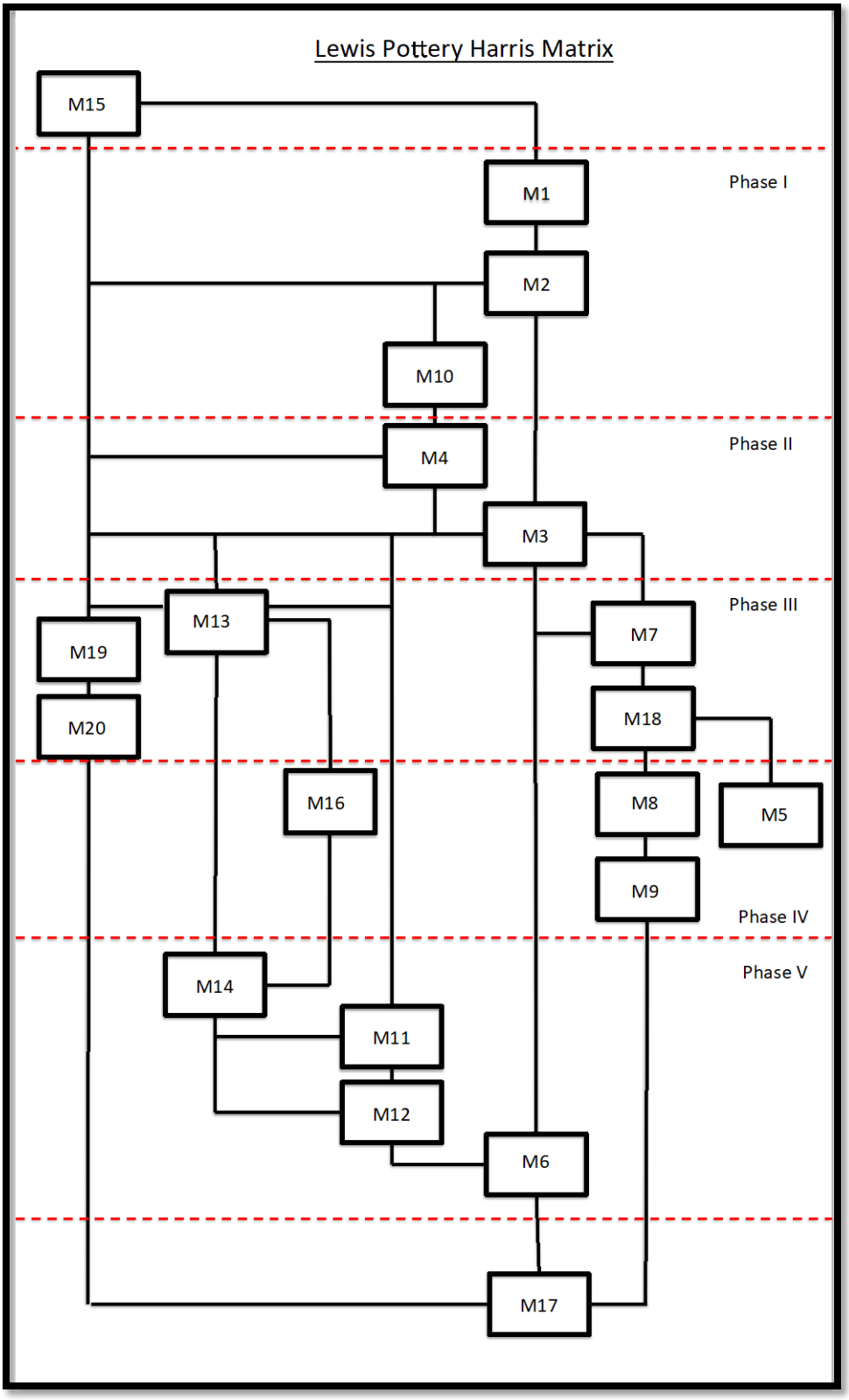


Figure 6-1. Harris Matrix Flowchart for the Lewis Pottery Site.

Following the deposition of M12, M11 was deposited within the privy sealing M12. M11 resembles a natural, sterile silt soil, indicating that the trench privy might have been abandoned for a short period of time which allowed for soil accumulate into the trench caused by rain runoff. The presence of stoneware wasters in both M12 and M11, the absence of primary deposition American whiteware wasters, and their stratigraphic position at the base of the excavations indicate they were deposited after Lewis had established the pottery in 1815 and before the production of whiteware in 1829.

Following the deposition of M11 and M12, the trench was apparently cleaned out as part of privy maintenance and refilled with fill dirt to level the area after it was abandoned. This filling episode is seen as M14. This deposit, like M11 and M12, lacks American whiteware wasters but includes stoneware wasters, which reveals its association to the pre-whiteware pottery function of the site, which exclusively produced stoneware.

Phase IV: Early Whiteware Production

The early whiteware period at the site began in 1829 with the arrival of Frost and Vodrey at the site and ended with the construction of the glost kiln in 1832. During this period, several events occurred: the construction, use, abandonment, and filling of the privy located on the northern end of the excavation (Feature 1), and the final filling of the privy trench (Feature 2) where earlier filling episodes had settled, creating a depression. The construction style of the privy being very shallow and unlined indicates it was dug prior to Louisville passing ordinances governing the construction of privies in 1853, which required them to be at least 12 ft. deep and lined in brick (Stottman 2000). With the reorganization of the pottery by Lewis, Vodrey, and Nixon in 1832, the privy was filled, resulting in the deposition of M9 and M8; M18 would be deposited later during the glost-period construction episode (Figure 6-1). To the south, depressions caused by compacting soils in the filled trench feature were also filled to maintain a flat surface, resulting in the deposition of M16 (Figures 5-5 and 5-7).

Phase III: Glost Kiln Construction (1832)

In 1832, the reorganization of the pottery was accompanied by the construction of a new glost kiln, a type of kiln used specifically in whiteware manufacture. The construction of the glost kiln likely indicates that the traditional single-firing technique employed for stoneware production was not working for whiteware and signifies Lewis' commitment to producing saleable domestic whiteware (Greer 1981). The construction of this glost kiln is seen archaeologically in the deposition of M18, M7 and M13 (Figure 5-5). The relatively low density of artifacts in these contexts combined with the high density of brick and mortar inclusions point to a construction or demolition episode. The construction of the glost kiln is immediately followed by the deposition of the whiteware waster midden, M3. The construction and use of the glost kiln also coincide with the abandonment and filling of the privy (Feature 1), indicating that the function of this part of the pottery was changing to an area of high traffic due to its proximity to the newly constructed kiln.

Phase II: Late Whiteware Production (1832-1836)

The presence of the new kiln made it an ideal location to dispose of waster ceramics. In addition, the presence of coal and coal slag and cinder in the M3 whiteware waster midden could indicate that the construction of the kiln also was necessary to facilitate the use of a new type of fuel source. Coal was not typically employed as a fuel source in kilns at American potteries, although it became popular as a source of fuel in Louisville's iron foundries between the 1830s and 1850s (Carson 1960; Yater 1987:58). Although coal was frequently used in Staffordshire England pottery kilns to produce whiteware ceramics, potteries in America typically used wood-fired kilns to produce stoneware, redware, and yellowware products. The presence of coal in M3 could indicate that the potters brought in from England to head the whiteware production effort were mimicking the English production methods down to the level of fuel source in order to create American whiteware. The M3 whiteware waster deposit was the final layer deposited during the whiteware production period of the pottery (Figure 5-5). M3, with over 20 thousand artifacts related to ceramic manufacturing, represents the height of whiteware production at the pottery, indicating that Lewis was likely successful enough to produce whiteware that he was able to sell.

Phase I: Post Lewis Whiteware Production

When Lewis left Louisville for Troy, Indiana in 1836, it appears that whiteware production continued at the pottery. Jabez Vodrey is known to have stayed in Louisville and likely continued to produce whiteware. While Vodrey moved his store across the street, he might have continued to use the old Lewis Pottery kilns which were already outfitted for whiteware production as late as 1840, when an ad for Vodrey's pottery appears in the city directory. However, at that time Vodrey was already moving to Troy, Indiana to head up the whiteware making effort there.

Based on the stratigraphy at the site, it appears that M4 represents the first post-Lewis whiteware production deposition (Figure 6-1). M4 is believed to be associated with a new pottery manager due to the dense inclusions of potter's clay in the soil matrix. The arrival of a new manager would likely bring changes in spatial organization of the site, including the use of this area as a dump for potter's clay – a role this area had not previously filled.

M4 is followed by deposition of M10, which lacked readily available data but did include a sherd with the stamp "Doane and Hancock", which dates this deposition to post-1840. Despite the departure of Vodrey, the Hancock brothers and William Frost had experience making Staffordshire whiteware and worked for Doane until 1842. With the potters who knew how to make whiteware, the equipment to do so, and some leftover clay available, George Doane likely continued making whiteware at the site. Doane's decision to continue making whiteware likely means that Lewis and Vodrey had clientele that purchased domestic whiteware and Doane continued to fill those orders, however the large amount of stoneware wasters in M4 indicates that his was primarily a stoneware pottery.

George Doane leased the site to several potters between 1840 and 1855. These potters made primarily stoneware products, although several of them sold imported goods as well. M1 and M2 represent overburden from filling and grading at the site following the abandonment of the pottery production at the site.

This stratigraphic analysis of the pottery deposits at the site in concert with the findings of the kiln excavation and the documentary record provides us an opportunity to weave these lines of evidence together and create an interpretation of the Lewis Pottery's history. Furthermore, we have gained some insight into challenges that Lewis and his potters faced when trying to make domestic fine whiteware tablewares and documented one of the first attempts to commercially produce this ware for sale in America.

INTERPRETATION:

THE STORY OF THE LEWIS POTTERY AND AMERICAN WHITEWARE

Establishment and Early Use of the Pottery

At the time that Lewis established his pottery on Lot 76 in 1815, the southwestern corner of the lot where the archaeological excavations took place was located behind the main pottery building which fronted Jackson Street to the east. This portion of the lot was used for privies (outhouses) rather than for pottery manufacturing, however it appears that some pottery wasters (trash from making pottery, such as defective wares) had been thrown into the privies. The privies found at the Lewis Pottery were not like those commonly found behind houses at that time which usually consisted of an unlined or wood lined pit (Stottman 2000; Stottman 2016a). Instead the Lewis Pottery privies were trenches one of which was long and shallow extending north/south near the west boundary of the lot. Another privy was a deeper trench that extended east/west just north of the other trench. Along the north side of this trench privy was a hard-packed clay floor which likely served as platform for those using the privy to stand (Figures 5-3 and 5-7). More than likely the trenches were just open sewers used by pottery workers, which would not have been unusual for a rather remote factory situated at the edge of town. Although it was unlikely that any buildings were associated with the trenches, it is possible that some moveable screens could have been used to provide some privacy.

When Lewis opened the pottery, he had a long established a business plan of hiring potters that made utilitarian earthenware. Based on the artifacts recovered from the earliest layers identified at the site and the fill from privies, the pottery initially produced stoneware and redware products, which likely continued for the first 15 years of its operation. There was no evidence found in these earliest deposits that any experimentation or production of domestic whiteware took place at the time.

Whiteware Experimentation

Although Lewis began his effort to make domestic whiteware in 1823 by locating and testing clay sources, it was not until around 1829 that he was ready to begin experimenting with whiteware manufacture. Having secured a viable clay source and hiring William Frost and Jabez Vodrey to set-up and lead the effort, whiteware was being made at the Lewis Pottery. According to Vodrey's diary, he and Frost experimented with making whiteware vessels, various types of decoration, and glazes which met with limited success (Stradling and Stradling 2001; Westmont 2012). During these experiments, they failed to make any good wares which discouraged all involved in the pottery except Lewis who managed to keep the effort alive.

Lewis was determined to not only make whiteware, but also to establish a factory pottery like those in Staffordshire, England. Whiteware was mass produced in England using a factory model where product was made in an assembly line type process. This model required a large number of workers who performed specific skills in the process. Lewis placed numerous advertisements in newspapers on the east coast looking for immigrant workers who had experience working in Staffordshire (Figure 2-3). Unfortunately, he received little response to his advertisements and only managed to bring on Vodrey's brother-in-law, George Nixon who had Staffordshire experience. Thus, the experiment with making whiteware began with local potters under the leadership of Vodrey, Nixon, and Frost (Stradling and Stradling 2001).

This experimental period was represented in the archaeology by the filling and abandonment of the privy trenches. The final filling of the east/west deeper trench privy contained whiteware wasters, indicating that at the time of abandonment whiteware was being produced at the pottery. Thus, the filling of the privy took place sometime between 1829 and 1832. The abandonment of the privy trenches suggests that this area of the pottery facility was no longer being used for privies, as Vodrey's diary indicates that major changes to the facility took place in 1832 with the construction of a glost kiln. These changes coincide with the reorganization of the business with Lewis, Vodrey, and Nixon as partners and the capital needed to create a whiteware pottery modeled on the Staffordshire plan.

Whiteware Manufacturing

With the reorganization of the Lewis Pottery in 1832, Lewis and his partners embarked on an effort to create a whiteware factory at his stoneware pottery. The technical demands of making whiteware compared to stoneware were quite different and to use stoneware pottery equipment in the effort proved too challenging. Lewis needed more than just suitable clay and skilled workers to make whiteware, he also needed the proper equipment. The construction of the glost kiln represents the effort to equip the pottery specifically for the manufacture of whiteware. A glost kiln was a kiln used for the two firings necessary to produce whiteware, one to fire the vessels into bisque and then a second firing for the glaze. Stoneware was typically fired only once. During the second firing, glazed whiteware vessels were placed inside of special containers called saggers to ensure

even firing. The use of a glost kiln and saggers would have been necessary for the proper manufacturing of whiteware (Stradling et al. 1998).

A layer of brick and mortar was found overlying the privy fill, which is evidence that a brick structure was constructed nearby shortly after the privies had been filled. It is likely that this structure was the glost kiln built in 1832, indicating that the area of the pottery once used for privies had been converted for manufacturing whiteware at that time. The remains of a kiln identified near this area were most likely associated with the glost kiln for whiteware manufacturing. This area also became a waster dump for failed whiteware firings, as a large amount of defective whiteware vessels and kiln furniture (props and spacers used to stack wares in the kiln) were found (Figure 6-2).

Figure 6-2. A Whiteware Waster Found in M3 at the Lewis Pottery Site.

Also found with these wasters were fragments of saggers and a large amount of coal and coal slag, which is significant with regards to the whiteware manufacturing effort (Figure 6-2). The presence of coal with the wasters indicates that the glost kiln was fueled with coal, as was typically done at Staffordshire potteries in England. This was in contrast to the stoneware kilns which exclusively used wood as fuel. The presence of coal within the whiteware waster midden indicates that Lewis and his partners tried to emulate a Staffordshire style pottery by using the same fuel source to fire their glost kiln.

Analysis of the wasters recovered during the excavations indicates that a variety of whiteware vessels were being produced at the pottery including dinner plates, London style bowls of various sizes, tea cups, cylindrical mugs, salve jars, lids, and smoking pipes. Many of these were decorated in English decorative styles common from the 1820s to 1840s, such as banded dipt, dendritic and cable design mocha, and embossed and roulette patterns (Figure 6-3). It is clear from the waster sherds that Lewis and his partners were intent on replicating popular English wares in an effort to directly compete with imports.

Figure 6-3. Unglazed Whiteware Cup Fragments Decorated in a Mocha Cable Design Found in 1997.

The whiteware wasters also provide some information about some of the problems that were encountered during manufacture. The fact that a large amount of wasters were found is not in itself an indication that the pottery failed to produce viable and saleable whiteware, as all potteries lost a percentage of their product during the firing process. This was perhaps more so for whiteware because of the technical challenges, such as the double firing process. Regardless, the wasters do indicate that there may have been problems with the clay, as many of the sherds exhibited weak paste structure, resulting in vessels that shattered during firing. There also were problems with the glaze, such as most glazed waster sherds exhibited a fine bumpy surface rather than the desired smooth glass like surface. Based on the wasters, the whiteware produced at the Lewis Pottery had a deep cream-colored body, which in some cases had a yellowish tint, and could exhibit a fine bumpy or smooth glaze (Figure 4-1).

It is clear that the pottery was able to produce saleable whiteware, but the pottery failed to show a profit. Based on the stoneware wasters found within the whiteware waster midden, the pottery continued to make stoneware during whiteware production in order to keep the business afloat. Also found in the waster midden were yellowware wasters, indicating that this ware was being produced as well. Yellowware was made with locally available clays that had a yellow appearance when fired, however it was often used in the production of a variety of utilitarian and fine wares using techniques similar to the production of whiteware. Despite the efforts to diversify products, when Jabez Vodrey left to run the Indiana Pottery Company in around 1840, the Lewis Pottery ceased business (Stradling and Stradling 2001).

Although the Lewis Pottery was out of business, by 1840 the property was leased to George Doane who continued to operate it as a pottery. A waster dump from this period consisted mostly of stoneware, but a significant amount of whiteware wasters also were found, suggesting that the ware continued to be manufactured at the site. Despite the departure of Vodrey, the Hancock brothers and William Frost had experience making Staffordshire English whiteware and worked for Doane until 1842. Stoneware wasters stamped with "DOANE AND HANCOCK" was found within a context dating to Doane's occupation of the pottery indicating that it also made whiteware at the time (Figure 6-4). With the potters who knew how to make whiteware, the equipment to do so, and some leftover clay available, George Doane continued making whiteware at the site. Doane's decision to continue making whiteware likely means that Lewis and Vodrey had clientele that purchased whiteware and Doane continued to fill those orders, however the large amount of stoneware wasters indicates that his was primarily a stoneware pottery.

Although it is clear that domestic whiteware was produced at both Lewis'and Doane's pottery, the extent to which this product was successfully sold was unknown until such wares were found at other archaeological sites in Louisville. Given that the effort to make domestic whiteware at the pottery was intended to copy its English counterparts in decoration and vessel type, it would be difficult to tell the difference and identify the wares made in Louisville specifically. However, based on the archaeology at the Lewis Pottery site and analysis of the wasters, it is possible to make a distinction. American whiteware made at the Lewis Pottery site is identifiable based largely on the look of its glaze. Based on the wasters, perfecting the glaze seems to have been the most challenging aspect of whiteware manufacture at the pottery and it seems that the products never achieved the exact look of the English imports they were emulating. The glaze on Louisville whiteware tended to have a fine bumpy texture and the body tended to have a creamy yellowish appearance, like English creamware, rather than being bright white (see Chapter 4 for a description of English creamware).

Figure 6-4. A Stoneware Waster with a Capacity Mark and Maker's Mark "DOANE AND HANCOCK" Found in 1997.

Based on these characteristics several examples Louisville whiteware have been found at other archaeological sites. At the Haymarket site (15Jf793) located just a couple of blocks from the Lewis Pottery site at the corner of Jefferson and Preston Streets, a whiteware salve jar lid identical to those found during the 1997 excavations at the Lewis Pottery was found in a privy dated to around 1840 (Figures (1-2 and 6-5). Also found in this privy was part of stoneware crock stamped with "GEO. W. DOANE," which indicates that the residents purchased pottery from Doane and conversely also bought locally produced whiteware from him (Figures 6-6) (Stottman 2015).

Several sherds of American whiteware were recovered from a privy and a cellar dating to the late 1830s to early 1840s at the Omni site (15Jf902) located several blocks from the Lewis Pottery site at Second and Liberty Streets (Figure 1-2). Sherds of a small London style bowl with dipt banded decoration found in a ca. 1840 privy was similar to wasters found at the Lewis Pottery site and exhibited a fine bumpy textured glaze. Also, one small sherd of a plate rim embossed with fleur des lies was identical to wasters found at the Lewis Pottery during the 1997 investigation of the kiln (Figures 6-7 and 6-8) (Stottman 2016b). The recovery of these examples from other sites demonstrates that saleable domestic whiteware products from Lewis' and Doane's pottery were being produced for sale and were purchased by local customers.

Figure 6-5. Stoneware with a "GEO. W. Doane" Mark Found at the Haymarket Site.

Figure 6-6. A Whiteware Salve Jar Lid from the Haymarket Site.

Figure 6-7. Embossed Rim Whiteware Wasters Found in 1997.

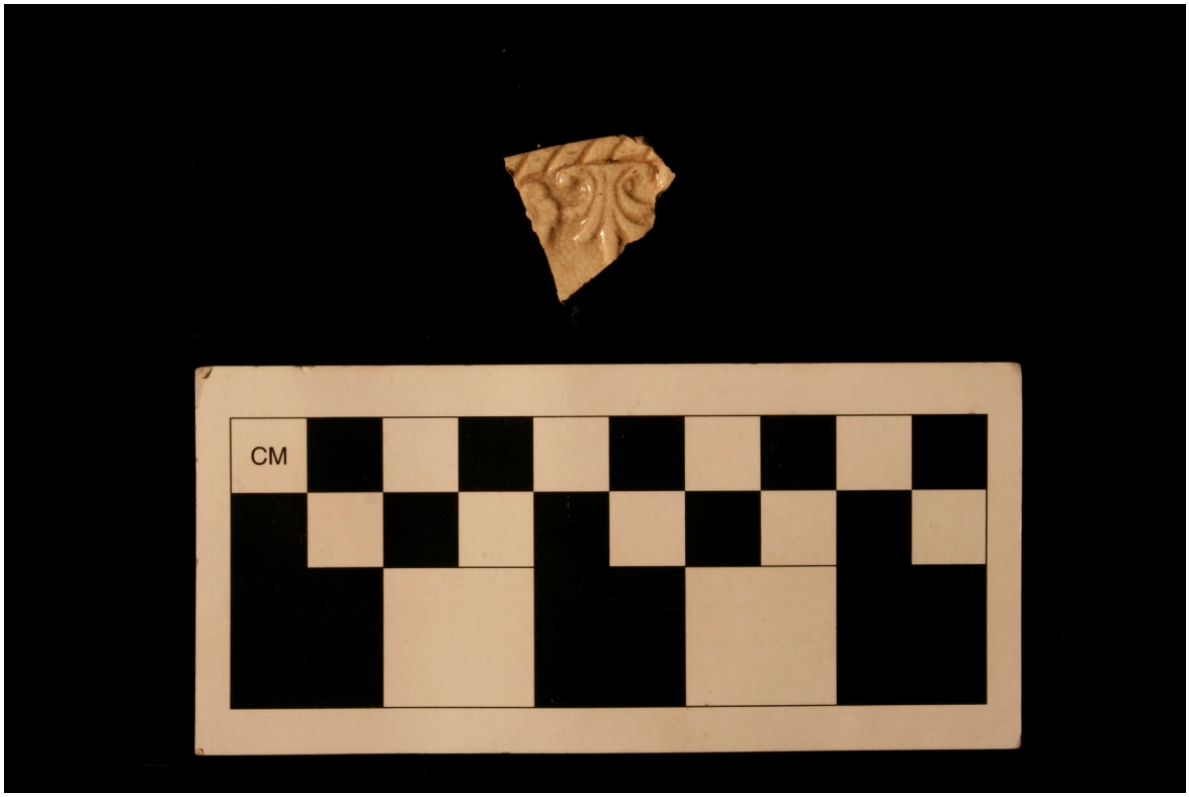


Figure 6-8. Whiteware with Embossed Rim Pattern Found at the Omni Site.

The End of Pottery Production at the Lewis Pottery Site

When the Hancock brothers left George Doane's pottery in 1842, whiteware manufacturing at the site also likely ended. Doane no longer had the skilled personnel and knowledge to produce whiteware and the supply of clay and glazing materials also had likely been exhausted. With the end of whiteware manufacture at the pottery, Doane turned his attention to traditional stoneware production and wholesale retail of imported wares. Some of Louisville's most well-known late nineteenth century stoneware potters worked for Doane or rented space and equipment at the old Lewis Pottery, including several members of the Melcher family in the late 1840s, before they struck out on their own in 1851 (Westmont 2012). Doane continued to use contract potters to produce stoneware crockery, smoking pipes, ornamental architectural accessories, and chimney toppers at the pottery which were sold with imported dinnerwares at his retail store a half a block from the pottery during the 1850s.

Based on the excavation of the kiln found at the site in 1997, when whiteware production ended, the glost kiln was modified and converted to an additional stoneware kiln. Based on the amount of slag build up on the kiln's brick, it appears that the salt glazing of stoneware occurred in the kiln well into the 1850s. The large amount of wood ash found in the kiln's fire boxes indicates that traditional stoneware firing techniques were used, including the use of wood to fuel it (Figure 2-9). Based on the wasters found within the kiln, it was last used to fire stoneware smoking pipes (Figure 2-11). By the end of the 1840s, the kiln was probably decommissioned, as the primary stoneware kilns were sufficient for Doane's scaled back catalog of wares. The abandonment of the old glost kiln preceded the cessation of all pottery activity on the property just a few years later when Lewis' daughters sold their interest in the property to brother in-law, John Shallcross, a year after their father's death in 1856.

Legacy of the Lewis Pottery

Although the effort to make American whiteware at the Lewis Pottery was a financial failure and did little to undercut British dominance of the market, it proved to be an important part of American ceramics history and a testament to spirit of entrepreneurs during this country's infancy. The effort to make whiteware at the Lewis Pottery was an important step in the development of a domestic fine dinnerware industry. The convergence of Jacob Lewis' ambition to make American whiteware and Jabez Vodrey's knowledge of English whiteware production in the burgeoning town of Louisville directly led to the creation of this industry. Lewis brought Vodrey to the Midwest and it was in Louisville that the many technological and organizational challenges that American potters faced in the effort to make whiteware were met. Based on archaeological evidence, eventually viable whiteware products were being produced on a regular basis at the Lewis Pottery and subsequently by George Doane's pottery. The knowledge that Vodrey gained during the ten years of experimentation at the Lewis Pottery were essential to future efforts to establish the American fine dinnerware industry. Vodrey took that knowledge with him when he left the Lewis Pottery to head the effort to make whiteware at the Indiana Pottery

Company just down the river from Louisville in Troy, Indiana. Like the effort at the Lewis Pottery, the Indiana Pottery Company also failed to establish a domestic fine dinnerware industry. Vodrey moved to East Liverpool, Ohio in 1847 where he and his sons helped establish America's first successful fine dinnerware industry. Although Vodrey died in 1860, by the 1870s East Liverpool became a prosperous American fine dinnerware manufacturing district that rivaled the famous Staffordshire district in England that Americans tried to emulate. The East Liverpool district competed with and eventually overtook the British in the dominance of the American dinnerware market (Gates and Ormerod 1982; Stradling and Stradling 2001).

Although Lewis was financially ruined by the effort to make whiteware in Louisville, his legacy had been established. His pottery was the first to open in Louisville and served to create a stoneware tradition in the city throughout the nineteenth century. Many of the subsequent potters and potteries in Louisville trace their history back to the site at the corner of Jackson and Market Streets, including present day potteries, such as Louisville Stoneware. Lewis' role in the establishment of a successful dinnerware industry in America is important, but it is not one that has been known, until archaeology helped tell his story.

CHAPTER 7:
CONCLUSIONS

The archaeological excavations at the Lewis Pottery has provided important information about history of Louisville's first pottery and its role in the development of America's ceramic industry. We have developed a better understanding of the attempts to make domestic whiteware at the pottery, one of the first potteries in America to do so. The stratigraphic analysis of the pottery deposits demonstrated that pottery production changed quickly during the history of the pottery and with the documentary record led to the development of a chronology of the pottery's history. Five phases of this chronology were developed from this analysis including: the initial establishment of the pottery focused on stoneware and redware (1815-1829); early whiteware experimentation and production (1829-1832); construction of whiteware production equipment like a new glost kiln (1832); Lewis' late larger scale production of whiteware (1832-1839); and post Lewis and final whiteware production period (1840-1842).

This study shows that Lewis desired to make domestic whiteware using the Staffordshire plan developed successfully in the Staffordshire pottery making district in England. He acquired suitable domestic clay and convinced English immigrants Jabez Vodrey and William Frost, who had experience working in Staffordshire to move to Louisville and head his whiteware production effort. Lewis experimented with producing whiteware at the pottery simultaneously with his stoneware and redwares. Based on the examination of wasters, whiteware production at the Lewis Pottery met with some challenges some of which initially were caused by trying to use and/or convert stoneware making equipment for use in making whiteware. There was obviously issues with the paste structure and glazing produced at the pottery. Some of the problems may have stemmed from working with a new fuel source in that stoneware was traditionally fired with wood and whiteware in England with coal. It is clear that Lewis was attempting to replicate that English methods down to the fuel source, as coal and cinder were found in association with whiteware wasters.

In 1832, Lewis invested greatly in whiteware production by constructing a glost kiln, a type of kiln used exclusively for firing whiteware. Based on the amount of whiteware wasters recovered whiteware production increased greatly after the kiln was built. Meanwhile, stoneware was still being produced at the pottery as well, indicating that whiteware was not likely very profitable. It was likely the stoneware business that kept the pottery afloat financially. By 1839 the pottery was failing and Lewis had lost his investors. Lewis conceded defeat in his effort to make whiteware on the scale he had hoped and left Louisville financially ruined.

Geoge Doane operated at the old Lewis Pottery site from 1840 to 1855 hiring a number of stoneware potters and lease space to others. Frost and Hancock brothers continued working with Doane after the Lewis pottery failed. They used their experience in Staffordshire to continue making whiteware for Doane using the preexisting equipment and clay to fill orders for at least some preexisting clients. It is clear from the analysis of the waster deposits and the identification of Lewis Pottery whiteware from other sites that

saleable whiteware was being produced and sold from the Lewis Pottery. By 1842 all of the potters with Staffordshire experience had left and Doane reverted to stoneware and yellowware production.

Through the work conducted at the Lewis Pottery site we have been able to identify and distinguish the whiteware produced at the pottery, essentially creating a new ceramic type in the study of nineteenth-century ceramics in the Ohio Valley. This type has thus far been identified from at least two other archaeological sites in Louisville, which has led to insights about the appetite for domestic versions of English whiteware amongst Louisville's emerging middle class (Stottman 2015; 2016b). Lewis clearly was trying to imitate the most popular English ceramics of the day with his focus on mocha decorated teawares and pattern molded dinnerwares that could be sold to upwardly mobile families practicing conspicuous consumerism at a lower cost. The analysis of the Lewis Pottery waster deposits has definitively demonstrated that research of such deposits provides very productive avenues of research, the status of which was noted as needing additional work in Kentucky's State Archaeology Plan (McBride and McBride 2008). To date most of the pottery excavations conducted in Kentucky have focused on researching the kilns and pottery production process (McBride and McBride 2008).

The data collected from the Lewis Pottery site will become an important resource for study of nineteenth century potteries and of America's ceramics industry. The site perhaps represents the only archaeologically excavated remains of an early domestic whiteware pottery in the United States and this data will be invaluable to researchers studying the development of this important industry.

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