Container Glass (N=145)

A variety of container glass was recovered from the site excavations. Research by Baugher-Perlin (1982), Jones and Sullivan (1985) and Toulouse (1972) were used to date glass containers. Glass color was the only attribute used for dating fragments that could not be identified as to type of manufacture. The approximate date of manufacture for bottles recovered was established by 1) determining the manufacturing process associated with the bottle, (i.e., creation of the body and lip of the container) and 2) using the patent or company manufacturing dates embossed on the bottle.

The manufacturing process can be roughly divided into three basic groups including blown-in-mold (BIM) and automatic bottle machine manufactured (ABM) vessels (Baugher-Perlin 1982:262-265). Each process will be discussed separately.

Free blown During the 19th century, freeblown vessels were being manufactured, as were most molded glass containers. Free blown bottles do not contain any seams, as the vessel is constructed in one piece.

Pontil marks are useful in establishing manufacture dates as well. There are four empontilling techniques, each of which leaves a distinctive pontil mark. The first was a glass pontil, which left a roughened surface on the base of the bottle. Also described as "rough pontils," glass pontils predate 1880.

The sand pontil leaves a mark larger than the glass pontil. The surface of the pontil is usually rough and may contain grains of embedded sand. As with the glass pontil, the sand pontil dates from 1810-1870.

A third type of pontil is the blowpipe pontil. This technique involved using the actual blowpipe as a pontil. Excess glass on the blowpipe was applied to the base of the bottle. When removed, the blowpipe either tore out glass or left excess glass on the base. Unlike the glass and sand pontils, the blowpipe pontil is no longer in use.

The final empontilling technique is the bare iron pontil. This type of pontil leaves a black or rust colored residue. Baugher-Perlin (1982:266-267) notes that the iron pontil and the snap case began to be used in the mid-19th century, but had lost popularity by the late 19th century.

The freeblown glass from the Boyle Site appears to have been olive colored wine bottle (Figure 6.15). Indeed, all 15 fragments may have come from a single vessel.

Figure 6.15. Base of a free-blown wine bottle (Unit 10, Level 9).

Blown in mold (BIM) Most molded bottles are constructed in pieces and have distinctive seams depending on the placement on the vessel. The dip mold was used from the late seventeenth through the mid-nineteenth century (Baugher-Perlin 1982:262) and leaves no seams, unless glass adhered to the edges of the bottle mold as it was attached to the free blown shoulder and bottle neck. The turn paste mold was used from about 1870 to the early twentieth century and does not contain seams because the glass is blown into a container that is spun. The glass conforms to the mold from the centrifugal force produced. Vessels formed from this process usually have faint horizontal lines from the spinning process. The three-part mold has seams running around the shoulder of the vessel and partially up the neck of the vessel. This style of mold lost popularity around 1870. Blow back molds were used in the manufacture of jars such as the distinctive Mason jar, which was patented in 1858. Most of these molds were being used in the mid- nineteenth century.

Embossing on bottles was possible by engraving the mold the glass was blown into. This was done in the mid- eighteenth century and long after. The panel bottle came into existence around 1860, and was useful because the name of the commodity or the manufacturing company could be changed on the bottle form by substituting a different "slug-plate" into the mold. This process can be identified through the distinctive seams, as they follow the rectangular shape of the nameplate. Of course, the date of the manufacturer's patent on the bottle and the name of the company, when present, can be utilized to determine a date of manufacture for the container (Figure 6.16).

Machine manufactured (ABM or MM) The Owens automatic bottle making machine was patented in 1903, and has distinctive seams running up the length of the bottle neck, along with valve marks and suction scars. This automatic bottle machine (ABM) or machine manufacture (MM) mold provides a firm manufacturing date at the beginning of the twentieth century.

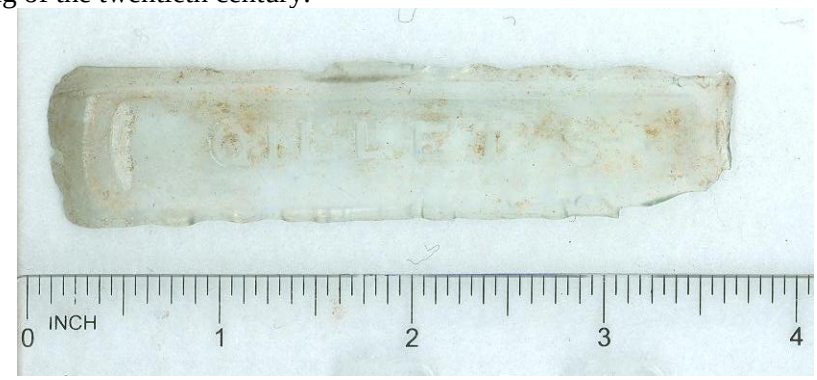

Figure 6.16. Side panel of a patent medicine bottle that reads "Gillet S…" (Unit 5, Level 5).

Color. There is some subjectivity inherent in the classification of glass color. As Jones and Sullivan (1985) remark, glass is colored by the chemicals, either as natural inclusions or additions by the manufacturer. The concern here was primarily to note the presence of purple or "amethyst" glass and "milk" glass. Amethyst glass began to be manufactured around 1880 according to Munsey (1970:55), when magnesium and was being added to the glass recipe. The glass will turn a purplish color when exposed to sunlight and is distinctive. Milk or white glass has been manufactured as long as glass has been made, but milk glass became common as it was used in "containers, table wares, and lighting devices" commonly in the later nineteenth through twentieth century (Jones and Sullivan 1985:14). Blue glass is another color that had great popularity in the later nineteenth century. Clear glass came into demand with the growing public desire to see the contents of the bottles, and was more popular in the late nineteenth century (Baugher-Perlin 1982:261). Clear, blue, brown, aqua, olive, amethyst, and milk were all colors represented in glass shards and containers (Figure 6.17).

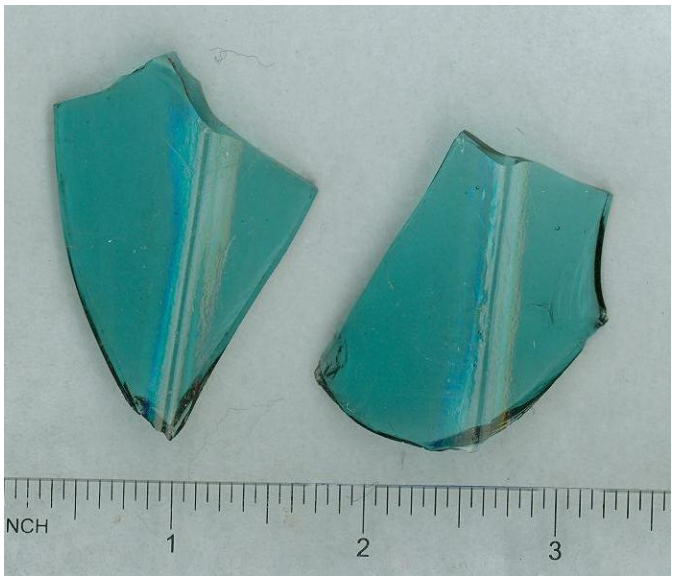

Figure 6.17. Teal glass body shards, possibly blown-in-mold or machine produced (Unit 2, Level 3).

The vast majority of the container glass in the assemblage was too fragmentary to determine the method of manufacture. Given the late nineteenth through twentieth century date of the site, it is highly probable that these undiagnosed fragments represent both BIM and machine manufactured vessels.

Container Closures (N=4)

Bottle closures serve both to prevent the spilling of a bottle's contents and to protect a bottle's contents from contamination and evaporation (Berge 1980). Closures have been in use almost as long as skins and bottles have been used to contain liquids. Closures range from a utilitarian piece of paper or cloth stuffed into the mouth of a bottle to a delicately crafted crystal stopper for a decanter. There are three primary closure types: 1) caps; 2) stoppers; and 3) seals (Berge 1980).

Caps are secured to a bottle by overlapping themselves over the outside of the finish or mouth. Common cap types include external screw, lugs, crown, and snap-on. External screw caps were first introduced in the mid-19th century (Toulouse 1977, Jones and Sullivan 1985). External thread caps were attached to bottles by means of grooves in the cap that screwed down on continuous glass threads on the finished exterior of a bottle. External thread caps were first introduced as metal in 1858 (Toulouse 1977, Jones and Sullivan 1985). Advances in technology led to the introduction of a bakelite external thread cap around 1922 (Berge 1980, Meikle 1995), an aluminum shell roll-on cap in 1924 (Berge 1980, Rock 1980) and plastic caps in the mid-1930s (Meikle 1995). Examples of the external thread cap include canning jar, mayonnaise jar, and pickle jar lids.

The crown cap was patented on February 2, 1892 by William Painter of Baltimore, Maryland (Rock 1980). The crown cap was placed over the finish, then crimped around a lip or groove in the finish to seal the container. This closure was lined with cork from 1892 until circa 1965 (Riley 1958, Rock 1980, IMACS Users Guide 1984). Crown caps with composition liners appeared in 1912 and both cork and composition liners were gradually phased out in the decade following the introduction of the plastic liner in 1955 (Riley 1958, IMACS Users Guide 1984). Most soda bottles have crown cap closures.

Stoppers, the second major closure type, are secured to the finish interior of bottles, usually by forcing a portion of the stopper into the bore of the finish. Stopper types include cork, glass, inside screw,

porcelain-top, Hutchinson Spring, Electric, Pittsburgh, and Lightning. Cork stoppers were the most common historic closure type.

Most glass stoppers use ground or roughened tapered stems along with a roughened finished inside to seal bottles. Loose blown-glass stoppers date to circa 1500 B.C., and tapered glass stoppers date to A.D. 500 (Holscher 1965 from Berge 1980). The "modern" ground and tapered glass stopper was developed around 1725 in Europe (Holscher 1965 from Berge 1980). Glass stoppers came in many shapes, sizes and styles and were used as closures in many different types of bottles. As with the cork stopper, the glass stopper was phased out in the 1920s with the advent of the crown cap closure (Berge 1980, Jones and Sullivan 1985).

Seal closures utilized the vacuum on the interior of the glass container. The cooling of the contents of the bottle created the vacuum. Seal closures, although dating back to 1810, did not become popular until the mid-20th century. The closures were most often used in food jars (Berge 1980). There were several types of seal closures including Phoenix, Sure Seal, Giles, spring seal, and disc seal.

The disc seal was used as early as 1810 by Nicholas Appert (Berge 1980). John L. Mason's patented fruit jar used this type of closure in 1858 (Berge 1980). Mason's closure was made of zinc, and was held in place with an exterior screw cap ring. Unfortunately, the zinc reacted with the contents of the jars, giving the contents an unpleasant metal taste (Jones and Sullivan 1985). Glass liners were developed and added to the disc around 1869 by Lewis R. Boyd (Toulouse 1969, 1977). These liners prevented the zinc from reacting with the contents of the jar. Mr. Boyd added a handle to the disc, to aid in its opening, circa 1900 (Toulouse 1977). Both of these disc seal types were used until around 1950 (Toulouse 1969, 1977, Jones and Sullivan 1985). In 1865, the Kerr two piece seal was patented. This system utilized a metal seal disc held in place by an exterior screw cap with no center. This seal and cap type system is still in use today.

All of the container closures recovered from the Boyle Site were gasket seals. This is particularly interesting given that no fruit jar fragments were clearly identified at the site.

Food Containers (N=248)

The first tinned goods were packaged in hand-cut, shaped, and soldered can bodies made of tin or iron plate. These "tin canisters" were patented in England in 1810 and in the United States in 1818 (Clark 1977; Rock 1984). The cans often swelled and burst, reacting with goods that they held.

Another can type, termed "hole-and-cap can(s)" because of the filling process, either had flush or hand-crimped ends (Rock 1984). The cans' side seams, either a lap side seam or a plumb joint, were soldered, fusing the gaps closed. The cans were filled through an orifice in the center of one end of the can. After the can was filled, a cap was soldered over the hole, sealing the can, hence the name "hole-and-cap" (Rock 1984). The hole-and-cap can came into use about the same time as the tin canister, but was quickly improved upon; these cans likewise were plagued by swelling and bursting incidents.

The first improvement was the addition of a small hole in the center of the soldered cap, implemented around 1820. This small hole allowed moisture to escape from the cans when heated, after the cans were filled and sealed. This process reduced the number of cans that swelled or burst. After heating, the hole was sealed with solder. Hole-in-cap cans were still handmade; a good tinsmith could produce 60 per day (Sacharow and Griffin 1970). These cans were the first cans used for commercially produced foods in the United States (Rock 1984).

In 1847, Allen Taylor invented a machine that converted flat metal disks into stamped or flanged can ends. This machine was improved upon over the next two years, yielding a machine that stamped both can ends and cut filler hole in the cap (Rock 1984). Most canneries in the United States used these stamped end cans until the 1880s.

The key-wind can was introduced in 1866. The opening system consisted of a scored band, either on the side or top of the can that could be removed by rolling it back with a key. The sardine can is a familiar example of this can type.

The tapered tin was patented in 1875 by two Chicago entrepreneurs for their processed meat products. These tins were either rectangular or had a base larger than the top. Another Chicago manufacturer combined and perfected the tapered tin and key-wind cans in 1895.

As the demand for canned goods rose, a separate can producing industry evolved. Max Ams, a New York machine-made can company owner, developed a "double side seam" in 1888 that locked the parts of the cans together (Collins 1924; May 1937). The company had perfected this technique by 1898, with the introduction of the "Ams Can" (Collins 1924: May 1937). This can eliminated the need for interior seam soldering by closing the top, bottom and side seams with double seams. These innovations reduced the manufacture time of the cans and significantly reduced can failure, i.e. swelling and bursting, due to the superior strength of the seam.

The hole-in-top can, an improvement of the hole-in-cap can, used a small pinhole, no larger than 1/8 inch in diameter. The hole was sealed with solder. By 1920, evaporated milk was found almost exclusively in hole-in-top cans (Rock 1984).

In 1904, the Sanitary Can Company of New York developed the first airtight solder less can (Rock 1984). The cans were completely machine-made, and were produced at a rate of almost 25,000 cans a day (May 1937). By the early 1960s the tin can was replaced by a steel body, which was stronger and more durable than tin. Aluminum tops were added to beverage cans, in order to make opening the cans easier. Modern cans are steel or alloys, usually lined with plastic on the interior to prevent chemical reactions between the contents of the finish or mouth. Common cap types include external screw, lugs, crown, and snap-on. External screw caps were first introduced in the mid- nineteenth century (Toulouse 1977; Jones and Sullivan 1985). External thread caps were attached to bottles by means of grooves in the cap that screwed down on continuous glass threads on the finished exterior of a bottle. External thread caps were first introduced as metal in 1858 (Toulouse 1977; Jones and Sullivan 1985). Advances in technology led to the introduction of a bakelite external thread cap around 1922 (Berge 1980; Meikle 1995), an aluminum shell roll-on cap in 1924 (Berge 1980; Rock 1980) and plastic caps in the mid- 1930s (Meikle 1995). Examples of the external thread cap include canning jar, mayonnaise jar, and pickle jar lids.

Metal food containers dominated the domestic assemblage from the site (Figure 6.18). This was a surprising find as Catherine had a reputation for being quite frugal (Connaghan 2012). We expected to find few metal food containers (suggesting store-bought food stuffs) and large quantities of fruit jars (indicating a degree of self-sufficiency), but were surprised that this was not the case. More on this in the next chapter.

Glass Tableware (N=2)

Press molding was first used, although at a very small scale, in England in the late seventeenth century to make small solid glass objects, such as watch faces and imitation precious stones (Buckley 1934). By the end of the eighteenth century, decanter stoppers and glass fee for objects were being produced (Jones and Sullivan 1985). Not until innovations in press molded techniques in the United States during the late 1820s, did the production of complete hollowware glass objects become possible (Watkins 1930). Mass production of press molded glassware was well established by the 1830s (Watkins 1930).

The earlier press molded glass objects were predominately made of colorless lead glass (Jones and Sullivan 1985). William Leighton of the Hobbs-Brockunier Glass Works in Wheeling, West Virginia invented a type of glass, called lime glass, which looked like lead glass, had superior pressing attributes and was much more inexpensive than lead glass (Revi 1964). Advancements in mould technology in the 1860s and 1870s led to the application of steam-powered mold operation, which in turn led to increased production and reduced cost (Revi 1964). Modern press molding is done entirely by machine (Jones and Sullivan 1985).

Press molded table glass was made by dropping hot pieces of glass into a mold. A plunger is forced into the mold, pressing the hot glass against the mold. The outer surface of the glass takes on the form of the mold, while the inner surface of the glass is shaped by the plunger. The plunger is withdrawn and the glass

Figure 6.18. Metal food container – crushed can (Unit 2, Level 4).

object is removed from the mold. The surface of the glass was often fire polished to restore the brilliance of the glass that was lost where the glass came into contact with the mold (Jones and Sullivan 1985).

Press molded glass may be recognized by several characteristics. Usually, the glass object must be open-topped in order for the plunger to be withdrawn from the mold. Narrow mouthed vessels were produced; however, additional manipulation of the glass was necessary after the plunger was removed from the mold. Evidence of this manipulation should be present on the vessel (Jones and Sullivan 1985). There is no relationship between the exterior shape and design of a press molded vessel to the interior shape and design, because the plunger shapes the interior of the object. This differs from earlier glass vessel production techniques like blown glassware, where interior shape was related to the exterior shape and design (Jones and Sullivan 1985).

Another characteristic of press molded containers was that mold seams were generally present. The seams were sharp and distinct, unless steps had been taken to intentionally remove them. The texture of the glass surface of press molded glass was disturbed, and often disguised by an all-over stipple design. The edges of the designs on press molded glass had a predisposition toward rounded edges. The bases of press molded objects were usually polished. The quality of the designs on press molded glassware was precise and the design motifs were numerous (Jones and Sullivan 1985).

In contrast to press molded glass, cut glass generally had a polished, smooth, and glossy surface texture. The design edges were sharp and distinct. Cut glass designs consisted mostly of panels, flutes, and

miters. The designs were often slightly uneven and asymmetrical. Mold seams were usually absent; they were polished off prior to cutting (Jones and Sullivan 1985).

There were two press molded pieces recovered from the site. Both of these were "fancy" dishes for entertaining or serving guests.

Cookware (N=9)

The cookware classification includes all items that may be used in the preparation of food. All of the cookware artifacts recovered from the site were assorted fragments of what appears to have been the family's cast iron stove.

Utensils (N=4)

Utensils refer to eating and serving flatware. Three handle fragments and a knife blade were recovered during the 2012 excavation.

Faunal/Floral (N=312)

A total of 506 faunal and floral remains were recovered from the site. The fauna included 230 fragments of bone, hide, teeth, and shell, representing both wild and domestic animals. Many of these objects likely represent the food refuse – beef, pork, chicken, and turkey were all recovered from the site.

The flora consisted of 82 items, including seeds and seed pods.

The foods families eat are highly cultural and often sensitive indicators of ethnicity and class status. Once the archaeological team has a sufficient sample from our excavations on Beaver Island, the faunal and floral remains from the all the sites investigated will be sent to specialists who will supplement these cursory identifications with more detailed interpretations.

Furnishings (N=15)

The Furnishings category includes artifacts usually associated with the home, but are not elements of the actual construction. Examples of furnishings include decorative elements, furniture, heating, and lighting. The objects specifically recovered from the Boyle Site included 13 fragments of glass chimney from oil lamps, one wick, and one decorative finial, possibly from a lamp (Figure 6.19).

Figure 6.19. Decorative finial (Unit 8, Level 8).

Maintenance and Subsistence Group (N=167)

The Maintenance group contains artifacts related to general maintenance activities. These artifacts were grouped into classes containing farm and garden objects, fuels such as coal and cinders, general hardware, general tools, and hunting and fishing.

Farming and Gardening (N=48)

This class includes artifacts associated with gardening activities. The artifacts from the Boyle Site included fragments of wire (some of which were barbed), barrel hoop, chain links, and pieces of terra cotta drain tiles.

Fuels (N=61)

This group of artifacts includes coal, cinder, and containers indicative of fuel. Only five pieces of coal were recovered from the site. The rest of the objects in this category were fragments of wood, including some of which were burned. It is possible that these wood ecofacts were actually parts of the former structure and not fuels at all.

General Hardware (N=64)

This class of artifacts includes an endless variety of hardware fasteners and items used for a variety of purposes. The general hardware artifacts from the site included a number of nuts, bolts, screws, washers, rivets, brackets, and gaskets (Figures 6.20 and 6.21).

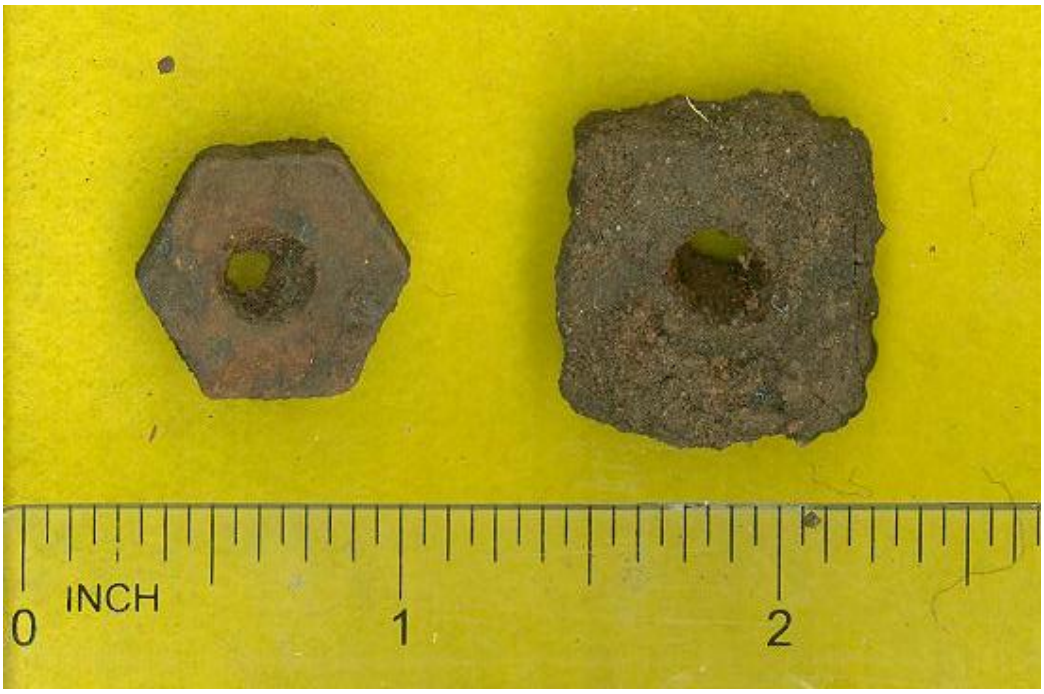

Figure 6.20. A hexagonal and square nut (Unit 4, Level 3).

Figure 6.21. A bolt and square nuts (Unit 5, Level 2).

General Tools (N=4)

This category incorporates tools of everyday use such as hammers, files, pliers, and shovels. The objects in this category included only fragments of files (Figure 6.22) and a whet stone.

Figure 6.22. Metal file without handle (Unit 5, Level 1).

Personal Group (N=27)

The Personal Group includes artifacts assumed to have belonged to individuals. This category of artifacts includes health and grooming, jewelry and beads, money, and tobacco-related objects. Health and grooming objects included five comb fragments, one razor blade, and a bobby pin. Jewelry artifacts consisted of one brooch (Figure 6.23) and one bead. One indeterminate coin was also recovered. Seventeen fragments of pipe bowls and stems (Figure 6.24 and 6.25) were among the assemblage from the Boyle Site as well.

Figure 6.23. Metal mesh brooch with decorative butterfly (Unit 1, Level 3).

Figure 6.24. Plain pipe stem fragments, including a partial bowl (left) (Unit 6, Level 6).

Figure 6.25. A decorated pipe stem fragment (Unit 2, Level 6).

Indeterminate (N=19)

This category contains artifacts that could not be identified beyond the material from which the artifact is made. There were eight material classes included within the Unidentified Group. These material classes included biological, ceramic, glass, metal, paper, plastic, rubber, and unidentified. It is possible that many of these pieces may have been nails, tools, or hardware, but excessive rust prevented a definite identification. Glass included in the unidentified category had been melted or otherwise heat-altered, which precluded more definitive identification.

Prehistoric (N=1)

A single prehistoric artifact was also recovered – a stone adze (Figure 6.26). Prehistoric objects are not uncommon on historic sites. The same attributes that attracted the Boyle family to this location – good drainage, near water, elevated site – would also have attracted prehistoric Native American peoples. It is also possible that one of the children or other member of the household found the adze elsewhere and brought it to the homesite. The artifact was clearly associated with a mid- to late-nineteenth-century midden that contained cut nails (1830-1880), stoneware (1830-1920), whiteware (1830-present), and blown-in-mold glass (1870-1910). Consequently, this object did not come from *in situ* prehistoric cultural deposits.

Figure 6.26. A prehistoric adze recovered from the historic midden at the site, broken in two pieces (Unit 7, Level 3).

Chapter 7: Specialty Analyses and Preliminary Interpretations

This chapter summarizes the preliminary analyses completed on the data recovered from the first field season at the Dan and Catherine Boyle Site (20CX204) on Barney's Lake Road on Beaver Island. By examining syncretic processes in material culture, dietary changes, and uses of the built environment, this interdisciplinary and collaborative project investigates the ways in which Irish families continued traditions from their homeland, incorporated new cultural norms and practices, and otherwise navigated the multifaceted and ever-changing social landscapes in which they lived. Our ability to address our research questions was dependent upon recovering sufficient data to do so. The following chapter summarizes our preliminary data and cursory interpretations for the 2012 data as well as compares it to our preliminary interpretations of the artifacts from the Gallagher Homesite (20CX201). Analyses will be on-going as new sites are excavated to understand how these homesteads fit into the overall social, cultural, and economic experiences of life on the island.

Chronology

The first step in the analytical process involved determining the element of "time" at the site. For every unit and every level, the range of dates of manufacture for artifacts as well as the average minimum date and the average maximum date were calculated based on the temporally-sensitive objects present. Levels which did not possess temporally-sensitive objects or for which dates could not be surmised using the law of superposition were not included in the table.

Deciphering time can be a challenge in archaeological analyses. Many artifacts have extraordinarily long dates of manufacture. For example, whiteware was widely manufactured and distributed beginning in the 1830s and continues to be produced today (Mankowitz and Hagger 1957; Price 1981; Wetherbee 1980:32). Consequently, *terminus ante quem* dates – that is, the date before which an object had to have been produced – were often difficult to determine. Likewise, stoneware was manufactured during the late eighteenth century and continued to be widely used well into the twentieth century (Cameron 1986:274-275; Dodd 1964:274-275; Ketchum 1983:19, 1991:9). In this case, *terminus post quem* dates – that is, the date after which an object had to have been produced – can skew the calculation to a much earlier date.

This circumstance is exacerbated by the sheer volume of goods produced under the auspices of industrialization and mass production during the mid- to late nineteenth century and into the twentieth century. So there are many classes of material objects that are not yet well understood by historical archaeologists, particularly artifacts from the late nineteenth and early twentieth centuries. The implication for the Gallagher Site is that some calculated dates may be skewed somewhat earlier than they actually represent, since nineteenth century dates may be represented in greater numbers among temporally-sensitive artifacts.

In addition, artifacts associated with level 1 in any unit are tentative at best, since this stratum represented the active humus layer and likely recent disturbance from humans and the natural world (plants and animals). When possible, the law of superposition was utilized to associate those strata for which few temporally-sensitive objects were available, unless clear disturbance to the stratigraphy was noted during excavation. Furthermore, strata for which dates straddled the periods of occupation were sometimes correlated with adjacent units using the Harris matrix in order to associate those cultural deposits with a particular phase of occupation at the site. The results of our date calculation were presented in Table 7.1.

Table 7.1. Summary of dates for units and levels excavated at the Boyle Farm Site (20CX204), with all "to present" dates omitted; hence, no "average late" dates could be calculated for some levels.

Unit	Level	Date range	Latest early date	Avg. early date	Earliest late date	Avg. late date	# of objects
1	1	N/A	N/A	N/A	N/A	N/A	1
1	2	1830-1880	1890	1857.5	1880	1880	9
1	3	1830-1915	1915	1867	1869	1856	30
1	4	1839-1940	1915	1877.3	1866	1893.7	13
1	5	1830-1880	1868	1845.7	1868	1874	9
1	6	1830-1880	1869	1841.5	1869	1877.3	7
1	7	1830-1880	1867	1848.5	1867	1873.5	2
1	8	1830-1917	1883	1856	1860	1885	5
1	9	1830-1911	1911	1858.3	1862	1884.3	4
1	10	1830-1880	1867	1839.3	1867	1875.7	4
2	1	1800-1925	1830	1815	1880	1902.5	2
2	2	1830-1880	1839	1833	1880	1880	7
2	3	1800-1925	1887	1853	1876	1887.5	28
2	4	1830-1965	1965	1902.7	1837	1906.9	199
2	5	1800-1965	1965	1885.5	1849	1898.7	90
2	6	1830-1963	1963	1882.4	1846	1904.5	67
2	7	1830-1965	1965	1877.9	1860	1885.1	52
2	8E	----- - 1830	N/A	N/A	1830	1830	1
2	8W	1830-1943	1943	1870.4	1842	1884.1	22
2	9E	1888-1888	1888	1888	1888	1888	1
2	9W	1830-1880	1874	1858	1870	1874.7	3
2	10	1820-1910	1910	1859.2	1863	1882.2	7
2	11	1856-1910	1910	1875.5	1856	1875.5	4
2	12	1830-1880	1839	1834.5	1880	1880	5
2	13	1830-1880	1830	1830	1880	1880	1
3	1	1830-1880	1830	1830	1880	1880	2
3	2	1830-1880	1880	1842.5	1880	1880	14
3	3	1830-1880	1880	1838.6	1880	1880	45
3	4	1830-1880	1840	1832.5	1880	1880	7
3	5	1830-1880	1830	1830	1880	1880	4
3	6	N/A	N/A	N/A	N/A	N/A	N/A
3	7	N/A	N/A	N/A	N/A	N/A	N/A
4	1	N/A	N/A	N/A	N/A	N/A	N/A
4	2	1830-1880	1886	1840.9	1880	1882.7	11
4	3	1800-1940	1880	1841	1846	1886.2	86
4	4	1830-1880	1851	1836	1848	1867.8	11
4	5	1830-1885	1857	1841.5	1857	1874	9
4	6	N/A	N/A	N/A	N/A	N/A	N/A
4	7	N/A	N/A	N/A	N/A	N/A	N/A
5	1	1830-1880	1830	1830	1880	1880	1
5	2	N/A	N/A	N/A	N/A	N/A	N/A
5	3	1830-1925	1854	1895	1862	1887	60
5	4	1800-1925	1880	1839.9	1880	1898	28
5	5	1830-1920	1880	1851.3	1830	1876.5	30
5	6	1830-1880	1880	1843.9	1880	1880	38
5	7	1800-1940	1880	1836.9	1870	1891.9	18
5	8	1780-1940	1895	1846.4	1830	1872.8	22
5	9	1830-1880	1830	1830	1880	1880	3
5	10	1830-1880	1830	1830	1880	1880	1
5	11	1830-1880	1840	1835	1880	1880	3
5	12	N/A	N/A	N/A	N/A	N/A	N/A

Unit	Level	Date range	Latest early date	Avg. early date	Earliest late date	Avg. late date	# of objects
5	13	N/A	N/A	N/A	N/A	N/A	N/A
6	1	N/A	N/A	N/A	N/A	N/A	N/A
6	2	1830-1880	1880	1842.4	1858	1875.6	8
6	3	1820-1933	1933	1845	1860	1888.7	14
6	4	1800-1955	1955	1861.1	1865	1902.6	19
6	5	1800-1925	1884	1834.8	1880	1889.8	7
6	6	1830-1940	1890	1843.7	1848	1889	68
6	7	1830-1880	1830	1830	1880	1880	1
7	1	N/A	N/A	N/A	N/A	N/A	N/A
7	2	1780-1939	1939	1849.3	1860	1889.9	37
7	3	1830-1924	1924	1846.6	1834	1889.7	22
7	4	1830-1880	1880	1855	1880	1880	2
7	5	1830-1895	1895	1848.5	1840	1871.7	5
7	6	1830-1880	1830	1830	1880	1880	1
7	7	N/A	N/A	N/A	N/A	N/A	N/A
7	8	N/A	N/A	N/A	N/A	N/A	N/A
8	1	N/A	N/A	N/A	N/A	N/A	N/A
8	2	1830-1880	1839	1834.5	1880	1880	4
8	3	1780-1925	1880	1824.3	1860	1891.7	20
8	4	1830-1940	1880	1839.8	1860	1893.3	13
8	5	1830-1940	1862	1835.1	1862	1906.3	27
8	6	1780-1880	1830	1805	1860	1870	2
8	7	1830- -----	1830	1830	N/A	N/A	1
8	8	N/A	N/A	N/A	N/A	N/A	N/A
8	9	1830-1880	1830	1830	1880	1880	1
9	1	N/A	N/A	N/A	N/A	N/A	N/A
9	2	1830-1860	1880	1849.7	1860	1860	3
9	3	1800-1925	1880	1840.6	1860	1882.4	25
9	4	1820-1885	1885	1844	1861	1877.1	15
9	5	N/A	N/A	N/A	N/A	N/A	N/A
9	6	1780-1880	1873	1830.3	1860	1870.6	14
9	7	1830-1925	1873	1844.5	1853	1880.8	10
9	8	1830-1885	1851	1840.3	1851	1874	7
9	9	1830-1880	1830	1830	1880	1880	7
9	10	1830-1880	1830	1830	1880	1880	2
9	11	N/A	N/A	N/A	N/A	N/A	N/A
9	12	1870-1910	1870	1870	1910	1910	1
9	4-7	N/A	N/A	N/A	N/A	N/A	N/A
10	1	N/A	N/A	N/A	N/A	N/A	N/A
10	2	N/A	N/A	N/A	N/A	N/A	N/A
10	3	N/A	N/A	N/A	N/A	N/A	N/A
10	4	1780-1950	1909	1851.7	1860	1898	18
10	5	1800-1925	1840	1828.6	1880	1896.7	8
10	6	1830-1925	1830	1830	1880	1902.5	3
10	7	1830-1903	1903	1854.3	1880	1880	8
10	8	1800-1925	1860	1828.8	1860	1885.6	32
10	9	1780-1940	1880	1826.2	1830	1896.9	23
10	10	1830-1906	1906	1854	1860	1882.3	13
10	11	1810-1940	1871	1837.5	1870	1891.6	28
10	12	1800-1940	1903	1841.9	1860	1893.5	40
10	13	1800-1925	1872	1846.3	1854	1878.9	13
10	14	1830-1910	1871	1847.2	1865	1879.8	18
11	1	N/A	N/A	N/A	N/A	N/A	N/A
11	2	1830-1920	1880	1848.7	1868	1885.6	23
11	3	1830-1922	1922	1849.2	1853	1883.8	11

Unit	Level	Date range	Latest early date	Avg. early date	Earliest late date	Avg. late date	# of objects
11	4	1750-1885	1873	1832.2	1865	1875.4	11
11	5	1830-1880	1830	1830	1880	1880	1
11	6	1830-1880	1830	1830	1880	1880	3
11	7	1830-1880	1839	1834.5	1880	1880	5

Changes to the Landscape over Time

The excavation at the houselot focused on some of the standard research questions for domestic sites, specifically issues of chronology and change over time. These research items included (a) Was the building constructed in one episode? Or were there later additions? (b) How was the landscape modified over time? When did features come in to and out of use? Why? To what events do those changes correspond? (c) How does continuity and change in the landscape connect to larger social, cultural, and economic processes on the island? (d) Where were the activity areas in the yard? How might they reflect divisions of labor by gender or age?

Since most structures have windows, we utilized Moir's model for window glass dating – combined with other temporally-sensitive artifacts – to help determined the dates of buildings at the property. Window glass has been shown to gradually increase in thickness through time, which is why it can be a useful tool for dating historic sites. Several dating schemes and formulas have been devised that use average glass thickness to calculate occupation dates. These include Ball (1984), Roenke (1978), Chance and Chance (1976), McKelway (1992), and Moir (1987). Moir's (1987) window glass dating technique utilizes a regression line to date the average thickness of glass.

McBride and Sharp (1991:70) used this dating formula for window glass recovered at Camp Nelson, Kentucky and retrieved two dates very close to the documentary occupation dates. One date was only one half year late while the other was nearly ten years later. Current research is still investigating the possibility for regional differences in window glass dating schemes.

This method was developed for nineteenth century sites, so it should be appropriate for examining the nineteenth-century occupation of the Boyle Site. Moir (1987) advised that glass dates earlier than 1810 or more recent than 1915 may not be valid.

Moir's technique was used to date all of the flat glass recovered during an excavation. The proveniences and window glass dates are presented in tables in Appendix A of this report. There were no shards that measured and dated prior to 1810, although several shards post-dated 1915. These latter dates were included in the histogram generated for the site. Given nineteenth-century glassblowing technology, a single pane of glass is unlikely to be entirely consistent and thickness throughout. Therefore, a single shard of glass cannot be used to definitively data an excavation stratum. Rather, it is the overall distribution of window glass dates that are important. The distribution of glass dates from the Gallagher site were plotted as a histogram following Day and Clay (2000; Day 2001) (Figure 7.1).

The first major peak of window glass dates occurs in 1874 with a second significant peak in 1879. These dates are completely fascinating given that the cabin wasn't even constructed until 1883-1884. The third significant peak dates to 1889, five years or so after the house was constructed. The dating of the window glass suggests that the Boyle family removed the windows from their home near French Bay and "recycled" them in the construction of the home on Barney's Lake Road.

The evolution of a domestic space can illuminate the kinds of activity within households, how those activities are organized according to age and gender, and how activity changes over time. Too little data was recovered during our brief field season to be able to assess changes to the landscape over time. More data is needed to fully understand the uses of this particular domestic landscape.

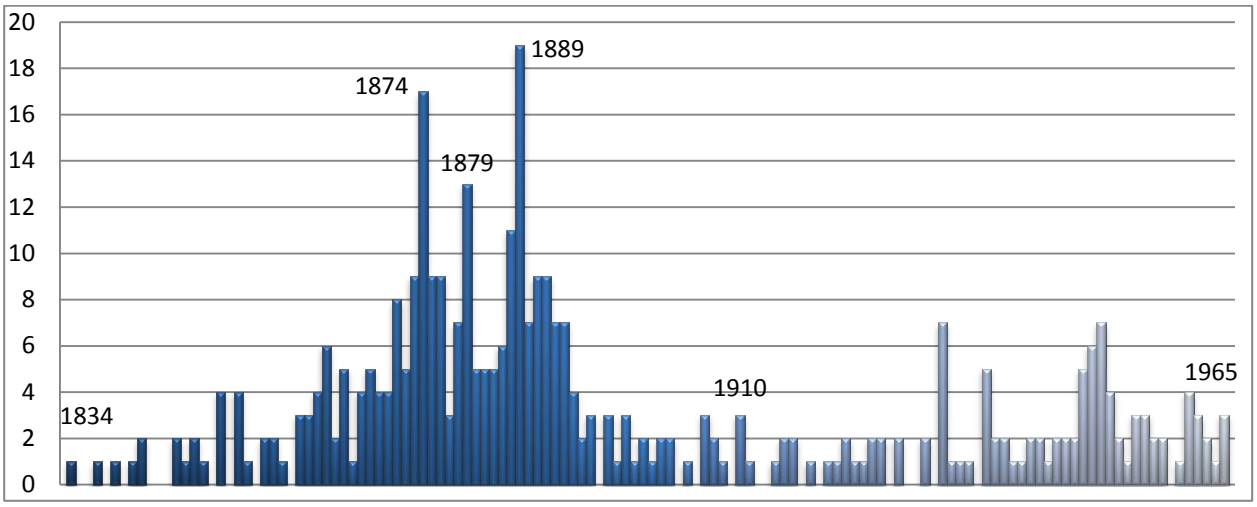

Figure 7.1. Histogram of window glass dates from the Boyle Farm Site (20CX204).

Glass Containers

Glass containers from the Gallagher Site (20CX201) were analyzed (Table 7.2) and compared to an Irish immigrant site (12SJ438) in South Bend, Indiana. Unfortunately, two few diagnostic glass container fragments were recovered from the Boyle Site to facilitate a similar analysis. A single wine bottle, a Vaseline jar, and a few fragments of probable patent medicine bottles were the only discernible containers. The assemblage was otherwise dominated by undiagnostic fragments, often even of indeterminate manufacture. This may be a matter of (1) sampling error – that we just didn't excavate in the areas that would have yielded broken container glass; or (2) it could be a unique function of the site's residents who may have reused glass in various ways around the homesite; or (3) the brief occupation of the site (a little more than a decade) didn't produce much glass debris for recovery.

Table 7.2. Summary of minimum glass vessels recovered from the Gallagher Site (20CX201), including their associations. The percentages given are for each category of vessel within each occupation.

Family	Bottles (liquid beverage)		Food containers		Serving vessels		Personal artifacts		Medicine Bottles		Other		Total
Preston	2	100%	0	0%	0	0%	0	0%	0	0%	0	0%	2
Warner	5	23.8%	3	14.3%	0	0%	1	4.8%	10	48.6%	2	8.5%	21
Warner or Early 1	8	34.8%	6	26.1%	0	0%	0	0%	8	34.8%	1	4.3%	23
Early 1	23	35.9%	16	25%	3	4.7%	2	3.1%	16	25%	4	6.3%	64
Early 1 or 2	21	28.8%	40	54.8%	6	8.2%	0	0%	6	8.2%	0	0%	73
Early 2	62	38.3%	68	42%	11	6.8%	3	1.9%	18	11%	0	0%	162
Gallagher	10	90.9%	1	9.1%	0	0%	0	0%	0	0%	0	0%	11
Totals	**131**	**36.8%**	**134**	**37.6%**	**20**	**5.6%**	**6**	**1.7%**	**58**	**16.3%**	**7**	**2%**	**356**

One particularly surprising aspect of the assemblage was the complete absence of fruit jar fragments. It was expected that the Boyle family would have exhibited a degree of economic self-sufficiency based on what we had observed at the Gallagher Site as well as by the demographic composition of the community (with primarily fisherman/farmers and few specialized occupations). The absence of fruit jars and presence of significant amounts of metal food containers suggests that the Boyles were not preserving their own food, but rather buying it in town.

There are several possible explanations for this consumption pattern, all of which need further investigation. It could be a reflection of the relative affluence of the family. Fishing in northern Lake Michigan brought significant abundance to the Beaver Island community in the late nineteenth century (Connors 1999). As a fishing/farming family, the Boyles may have shared in this abundance. Fr. Dan Connaghan (2012) recalls that the furnishings in the house built across the street in 1895 were "very, very nice" and included an organ, many books, clocks, and an accumulation of other antiques from his parents, grandparents, great grandparents, and great-great grandparents. Those furnishings are certainly consistent with the hypothesis that the Beaver Irish were at least somewhat affluent during the second half of the nineteenth century, particularly the 1880s during which this site was occupied.

The reliance on can goods rather than preserved foods may also reflect the life cycle of the family. Their oldest daughter Mary would have been about 26 years old and most of the nine children would have been grown. Indeed, the Boyle family may have moved from French Bay to Barney's Lake Road specifically because many of the six boys were old enough to move out and work their own farms (Connaghan 2012). The household likely consisted only of Dan and Catherine and perhaps the two or three youngest children – that is far few mouths to feed than when the family was at its largest (N=11)! Not to mention that by the end of the occupation at the site (ca. 1895), Catherine would have been 65 and Dan 63 and perhaps not as keen on canning as they may have been in their younger days (US Bureau of the Census 1900).

Of course, these variables might also have worked in tandem. The relative affluence may have facilitated different consumer strategies in the waning decades of the nineteenth century. This certainly raises intriguing questions about the ways in which the social and cultural life of the island might also have been changing as the twentieth century approached. An answer to which might become clearer as more homesites are excavated and the comparative data set expands.

Refined Earthenwares

Refined earthenwares are always of particular interest at historic archaeological sites as they are a wonderful medium for displaying consumer tastes, have patterns that change frequently with those evolving tastes, break easily and thus are deposited in the archaeological record, and preserve well for later recovery. The ceramics from the Boyle site were no exception. The minimum number of vessels was determined and those vessels were associated with particular families who had occupied the house (Table 7.4). These ceramics were compared with from the Gallagher Site.

Two important observations regarding the ceramic assemblage from the Gallagher Homestead were made in the 2010-2011 technical report. Notably, the "blue willow" pattern – with the exception of a single plate fragment – was associated exclusively with the first generation Irish immigrant family at the site and there were no matched sets recovered from the site.

Although highly fragmentary, a minimum of 29 vessels were identified from the Boyle Site – 23 refined earthenwares and six coarse earthenwares (Flores 2012). There were no elaborate vessels in the assemblage as most of the dishes were either of blue decoration or plain. It appears that ceramics were not used for competitive social display (Wall 1999, 2000) as there are also no clear matched sets.

An absence of matched sets may have also been a deliberate strategy by the family to minimize any conspicuous displays of wealth. The Boyles consistently purchased teawares and tablewares with blue patterns or undecorated wares, which would have created a complementary and somewhat unified appearance on their table, even if the vessels did not match exactly (Fitts 1999, 2001). An overt material display of a separate tea set may have been viewed as wasteful or decadent in this community.

For some poorer middle-class residents in New York at about the same time, "dazzling their friends with sumptuous ceramics was not necessarily a productive strategy in an environment where they might need the help of their peers to maintain their precarious position at the lower end of the middle class" (Wall 1999:113). Consequently, ceramic vessels in the Five Points were used to highlight group similarities rather than to emphasize differences. The waning decades of the nineteenth century were financially difficult with a

Table 7.3. Summary of minimum ceramic vessels recovered from the Boyle Site (20CX204). R=redware, Y=yellowware, S=stoneware, W=whiteware, I=ironstone, P=pearlware.

Vessel #	Description
R1	Indeterminate, unglazed interior, clear glazed exterior
Y1	Mixing bowl, undecorated
S1	Jug, clear glazed handle fragment
S2	Jug, salt-glazed interior, Albany-glazed exterior
S3	Jug, salt-glazed interior, Albany-glazed exterior
S4	Jug, brown glazed interior, clear glazed exterior
W1	Plate, blue transfer print
W2	Bowl, annular design
W3	Plate, blue shell edged
W4	Plate, blue shell edged
W5	Plate, blue transfer print (blue willow)
W6	Plate, blue transfer print (blue willow)
W7	Plate, flow blue transfer print
W8	Plate, flow blue transfer print
W9	Plate, embossed rim
W10	Teacup, undecorated handle
W11	Chamber pot, undecorated
W12	Teacup, undecorated
W13	Teacup, undecorated
I1	Dinner plate, undecorated
I2	Saucer, undecorated
I3	Teacup, undecorated
I4	Saucer, annual design
I5	Plate, flow blue transfer print
I6	Plate, undecorated
I7	Plate, undecorated
I8	Teacup, undecorated
I9	Teacup, undecorated
P(?)1	Plate, embossed design

series of depressions and economic downturns (Rotman and Clay 2008; Rotman and Staicer 2002). If not every family was sharing in the affluence the Boyles may have been experiencing, a strategy of deliberately eschewing overt material displays of wealth may have been employed by the Boyle family as well – at least not through the dishes on their table.

The “blue willow” pattern was widely produced and frequently characterized in the contemporary literature as "cheap and pretty” (*Good Housekeeping* 1889:249). Nevertheless, this pattern had significant cultural significance for Irish immigrants as a talisman of love in the home (Walsh 2011).

Clearly, this pattern was important to the first generation Early family. Equally significant is the fact that the second generation deliberately eschewed this pattern, with the exception of one fragment which may have been an heirloom piece from Patrick’s parents (Rotman et al. 2011, 2013). This is not entirely surprising since the occupation of the house by the second generation Irish family occurs just a few years after the arrival of the Beaver Island Lumber Company and the return of a multicultural society to the island. The second generation was likely more attuned to the low status of the blue willow pattern in the changing cultural context of the island. The fact that we see relatively little of blue willow at the Boyle Site may

suggest that by the 1880s, even first generation Irish were moving away from this ubiquitous ware as its symbolic value in Ireland became overshadowed by its low status in America.

One particularly interesting ceramic from the site was a single fragment of pearlware. This undecorated footring of a probable plate dates between 1780-1820, predating the occupation of the site by nearly a century. It also significantly predates the Mormon occupation of the 1840s and 1850s. Did this plate belong to some of the very earliest Anglo-European settlers on the island? Was it brought to Beaver Island from Navoo, Illinois or other previous Mormon settlement in the Midwest and then left behind after the eviction? Did Catherine bring it with her when she emigrated as an heirloom piece from her grandmother or great-grandmother? Unfortunately, we will never know, but this object illustrates that artifacts have complex use lives and often entice us with stories we cannot decipher.

Consumer choices are not solely about relative poverty or engagement with familiar practices. Consumption of material goods is also about household priorities (Orser 2010:98). The dishes from the Boyle family table appear to embody all of the complexities of their lived experiences – traditional practices from their homeland (Shakour et al. 2010); negotiation of cultural norms of the island and creation of a meaningful home life (Fitts 1999); the need to solidify family or close family-like social bonds through meal sharing and tea time (Wall 1999, 2000); a desire to emphasize similarities with neighbors rather than differences (Rotman and Clay 2008); and the unique life history of the family (Rotman 2010). As such, their consumer choices were not reducible to simple binary assessments of poverty or wealth, familiar or unfamiliar practices, alienation or incorporation into the cultural world of Beaver Island. Rather the refined earthenwares from the site illustrate the Boyle family's navigation of the multifaceted social landscapes in which they lived.