

## **Chapter 10: Historic Materials Recovered**

*by Deborah L. Rotman*

There were 4,869 historic artifacts recovered during the archaeological investigation of the Gallagher Homestead site (20CX201). The following section provides a descriptive discussion of the artifacts recovered, which follows an analytical scheme developed and artifact descriptions utilized by Cultural Resource Analysts, Inc. in Lexington, Kentucky. A complete inventory of the artifacts is provided in Appendix A.

Artifacts recovered during the field excavation are currently in the possession of the University of Notre Dame while analyses are on-going, but will ultimately be curated with the Beaver Island Historical Society. Brick and mortar fragments, coal, and wood charcoal were counted, weighed, and then discarded, unless otherwise unique or diagnostic.

Assemblages of historic artifacts are often classified and grouped according to a scheme developed originally by Stanley South (1977). South believed that his classification scheme would present patterns in historic site artifact assemblages that would provide cultural insights. Questions of historic site function, the cultural background of a site's occupants or regional behavior patterns were topics to be addressed using this system.

South's system was widely accepted and adopted by historical archaeologists at first. Since that time, however, his categorization scheme has been criticized on theoretical and organizational grounds (Orser 1988; Wesler 1984). One criticism of South's pattern recognition system is that the organization of artifacts is too simplistic. Swann (2002) observed that South's groups can potentially be insufficiently detailed. She suggested the use of sub-groups to distinguish between, for example, candleholders used for religious purposes and those used for general lighting. Despite its imperfections, most archaeologists recognize the usefulness of South's classification system to begin organizing and present complex data sets.

Stewart-Abernathy (1986), Orser (1988), and Wagner and McCorvie (1992) have subsequently revised the classification scheme. In this report, artifacts are grouped into the following categories including: Architecture, Arms/Munitions, Clothing, Communication and Education, Domestic, Fauna/Flora, Furnishings, Maintenance and Subsistence, Personal, and Unidentified (Table 10.1).

**Table 10.1 Historic Artifacts Recovered from the Gallagher Homestead Site (20CX201).**

<i>Artifact Category</i>	<i>#</i>	<i>%</i>
Architecture	1,769	36.2
Arms & Munitions	5	0.1
Clothing	59	1.2
Communication & Education	50	1.0
Domestic	1,738	35.6
Flora/Fauna	267	5.5
Furnishings	147	3.0
Maintenance & Subsistence	492	10.1
Personal	81	1.7
Unidentified	261	5.6
<i>Total</i>	4,869	100.0

Information on the age of artifacts as described in the artifact tables is derived from a variety of sources, which are cited in the materials recovered discussion. The beginning and ending dates cited need some clarification. Usually, an artifact has specific attributes that represent a technological change, an invention in the manufacturing process, or simple stylistic changes in decoration. These attribute changes

usually have associated dates derived from historical and archaeological research. For example, bottles may have seams that indicate a specific manufacturing process patented in a certain year. The bottle then can be assigned a “beginning date” for the same year of the patent. New technology may eliminate the need for the same patent and bottles using that technology would no longer be produced. The “ending date” will be the approximate time when the new technology takes hold and the old bottles are no longer manufactured.

Specific styles in ceramic decorations are also known to have changed. Archaeological and archival researchers have defined time periods when specific ceramic decorations were manufactured and subsequently went out of favor (e.g., Lofstrom et al. 1982; Majewski and O’Brien 1984, 1987). South’s (1977) mean ceramic dating technique uses this information. The dates presented here should not be considered absolute but are the best estimates of an artifact’s age that is available at this time. A blank space indicates the artifact could not be dated or that the period of manufacture was so prolonged that the artifact was being manufactured before America was colonized. An ending date of “P” was assigned for artifacts that may still be acquired today. The rationale for presenting dates for the artifacts recovered is to allow a more precise estimate of the time span the site was occupied, rather than the main occupation date of a site.

#### *Architecture Group (N=1,769)*

The architecture group is comprised of artifacts directly related to the physical structures on the landscape as well as those artifacts that were used to enhance the interior or exterior of buildings. These artifacts primarily consisted of window glass, nails, and construction materials, such as brick and concrete. Artifacts from this group represented more than one-third of the total assemblage from the site.

#### *Construction Materials (N=505)*

Construction materials refer to all elements of building construction. For this project, the building materials collected included primarily brick, with minor amounts of mortar, plaster, wood fragments, and other materials. Bricks (N=115) included handmade and machine-made varieties. Unfortunately, most of the brick fragments recovered from the site were too fragmentary to identify further.

Handmade or early machine-made bricks often have a glaze resulting from the sand in the clay turning to glass in the kiln. The paste is usually more porous, and the shape of this early brick is more irregular. The later machine-made bricks have a harder, more consistent paste and are uniform in shape. Machine-made bricks will often have marks in the clay that are related to the machine manufacturing process (Gurcke 1987; Greene 1992). Although no research has been conducted into the local history of brick making facilities near the project area, handmade bricks usually date to the first half of the nineteenth century and machine bricks date to the last half of the nineteenth century and into the twentieth.

A variety of other construction-related materials were also recovered. These included: one aluminum gutter fragment, 162 pieces of asphalt composition roofing or siding, one carpet fragment, 59 bits of caulk, 58 pieces of cement/concrete, three composite/board fragments, one piece of linoleum flooring, 34 pieces of mortar, 37 bits of plaster, four small sections of window screen, 14 fragments of wood/plank, and six unidentified pieces of construction material.

#### *Flat Glass (N=113)*

Each fragment of flat glass was measured for thickness and recorded to the nearest hundredth of a millimeter. The differences between window glass, mirror glass (Personal group), and plate glass (special function such as shelving) were in part determined by the thickness and wear of each flat glass shard. Any glass that measured 2.86 mm or larger was considered plate glass. There were 14 pieces of flat glass thick enough to be considered plate glass. An analysis of the remaining 99 fragments of window glass was presented in Chapter 11.

### *Nails (N=1,938)*

The largest portion of artifacts from the Architecture Group are metal nails. There are three stages recognized in the technological chronology of nails; wrought nails, cut nails, and wire-drawn nails.

Wrought nails were handmade and were the primary type of construction fastener in the eighteenth and early nineteenth centuries. Their use ended by around 1830 with the widespread use of the square cut or machine cut nails (Nelson 1968:8).

The cut nail, which was introduced in approximately 1790, originally had a machine cut body with a handmade head. Not until technological advancements around 1815 had produced a totally machine-made cut nail did they begin to replace wrought nails in the construction industry. In the 1820s crude machine-made heads replaced the handmade heads on cut nails. These nails also exhibit a “rounded shank under the head” (Nelson 1968:8). By the late 1830s these “early” cut nails were replaced with “late” (or modern machine) cut nails.

The first wire-drawn nails were introduced into the United States from Europe by the mid-nineteenth century. These early wire nails were primarily used for box construction and were not well adapted for the building industry until the 1870s. Although the cut nail can still be purchased today, the wire nail nearly universally replaced it by the turn of the century (Nelson 1968:8).

At the Gallagher Homestead Site, the distribution of nails was as expected for mid-nineteenth- to early twentieth century site. There were no wrought nails, 630 cut nails (all of which appeared to have been machine cut), 420 wire nails, and 101 unidentifiable nails and nail fragments.

### *Arms & Munitions Group (N=5)*

The arms category includes artifacts generally associated with civilian and military weaponry. Examples of arms include gun parts, bullets or projectiles, shot shells, and gunflints. The artifacts recovered in this group were reflective of civilian firearms use.

Only five artifacts related to arms and munitions were recovered from the Gallagher Site, all of which were associated with projectiles. These objects included one 44 Remington Magnum center-fire cartridge and four 22-caliber rim-fire cartridges (three long and one short).

### *Clothing Group (N=59)*

The Clothing Group incorporates buttons, clothing fasteners, and footwear. Other clothing related items such as belts, hats, hosiery, and fabric are also included in this category.

Ten buttons were included in the assemblage: two added shank, one self-shank, six sew-through, and one indeterminate (Figure 10.1). Twenty-one fasteners were also recovered during the excavation: nine grommets, five buckles (likely clasps from “wellie”-style boots), one collar stud or cuff link, one rivet, and five suspender clasps (Figure 10.2). Other clothing-related artifacts included 22 pieces of leather shoe(s) and six fragments of synthetic fabrics.

### *Communication and Education Group (N=50)*

The Communication and Education Group includes items associated with printed matter, writing implements, electronics such as television, radio, computer, telephone, and telegraph as well as miscellaneous office related items. The assemblage from the Gallagher Homestead included 49 fragments of newsprint (some were very large) and one end cap to a wooden pencil.



**Figure 10.1. Buttons recovered from the Gallagher Homesite (left to right): black vulcanized rubber two-hole sew-through button (1849-1900) from Unit 8 Level 1; early plastic (bakelite?) four-hole sew-through button (1840-1920) from Unit 12 Level 3; and a shell two-hole sew-through button (1895-1940) from Unit 12 Level 5.**



**Figure 10.2. Suspender clasp recovered during the excavation of Unit 8, Level 6.**

*Domestic Group (N=1,738)*

Artifacts included in the Domestic Group consisted of ceramics (N=244), glass containers (N=601), food containers (N=670), container closures (N=139), glass tableware (N=37), housekeeping items (N=2), cookware (N=43), and utensils (N=2). The ceramic inventory consisted of a variety of refined and unrefined earthen wares. A full description of ceramic types recovered is listed below followed by descriptions of other Domestic group artifacts. An analysis of the ceramics and glass containers was presented in Chapter 11.

*Ceramics (N=244)*

The ceramics recovered were grouped into nine major ware types, including: whiteware (N=177); ironstone (N=40); yellowware (N=4); stoneware (N=18); semi-porcelain (N=2), and fiesta ware (N=3). Ceramics within each of these ware groups were separated into decorative types that have temporal significance. Each of these ware groups is reviewed below, followed by discussions of associated decorative types. A more detailed analysis of the ceramics was presented in the next chapter.

**Whiteware (N=177)** As a ware group, whiteware includes all refined earthenware exhibiting a dense, relatively non-porous, white to grayish-white clay body. Undecorated areas on dishes exhibit a white finish under clear glaze. This glaze is usually a variant combination of feldspar, borax, sand, nitre, soda, and china clay (Wetherbee 1980:32). Small amounts of cobalt were added to some glazes, particularly during the period of transition from pearlware to whiteware and during early ironstone manufacture. Some areas of thick glaze on whiteware may therefore exhibit bluish or greenish-blue tinting. Weathered paste surfaces are often buff or off-white and vary considerably in color from freshly exposed paste.

Most whiteware produced before 1840 had some kind of colored decoration. These decorations are often used to designate ware groups, i.e., edgeware, polychrome, and colored transfer print. Most of the decorative types are not, however, confined to whiteware and taken alone are not particularly accurate temporal indicators or actual ware group designators (cf., Price 1981).

The most frequently used name for undecorated whiteware is the generic “ironstone,” which derives from an “Ironstone China” patented by Charles Mason in 1813 (Mankowitz and Hagger 1957). For purposes of clarification, however, “ironstone” will not be used when referring to whiteware. Ironstone is theoretically harder and denser than whiteware produced prior to about 1840. Manufacturer variability is, however, considerable and, therefore, precludes using paste as a definite ironstone identifier or as a temporal indicator. Consequently, without independent temporal control, whiteware that is not ironstone is difficult to identify, as is early versus later ironstone. For our analysis, the primary determining factor in classification of a sherd as whiteware was the hardness and porosity of the ceramic paste. Decorative types observed in our assemblage on the whiteware sherds are defined in the following discussions.

**Transfer Print:** By the late 1780s transfer printing was being developed in the potteries of Staffordshire, England as a fast and inexpensive method of mass-producing decorated pearlware and whiteware. It was originally perfected circa 1756 for use on porcelains and it was not used on earthenwares until Thomas Minton designed his blue willow pattern circa 1780, which instigated a wider commercial use (Norman-Wilcox 1978) (Little 1969:15-17 in Majewski and O’Brien 1987). The process is described as follows.

The required pattern is first engraved by hand on a copper plate, from which a tissue-paper print, called a “pull” or “proof” is taken. Then, by pressing the tissue against a piece of undecorated ware, the design is deposited or transferred to the surface of the article. Glazing and baking complete the process (Norman-Wilcox 1978:167).

According to Hughes and Hughes (1968:150) and others (cf., Godden 1963:113), blue was the dominant color of transfer printed wares prior to the 1830s (Figure 10.3). With advances in ceramic technology, brown and black prints appeared after 1825, and by 1830, green, red, pink, mulberry, and light blue were being produced (Bemrose 1952:23; Little 1969:13-22; Miler 1991; Wetherbee 1980:15). By the late 1840s, a technique for transferring more than one primary color to a vessel was perfected (Godden 1965:xx).

Early patterns include the willow pattern and other Chinese design motifs. Although some Chinese-style motifs were still being used, the use of classical and romantic scenic themes became popular in the early 19<sup>th</sup> century. These patterns included country scenes, floral motifs, and travel scenes. Patterns depicting American buildings and scenery were popular after 1812 (Little 1969:25-26 in Majewski and O’Brien 1987). The patterns on these sherds were suggestive of prints of the early 19<sup>th</sup> century (Price 1979:19). The transfer printed designs use country scenes and floral motifs. The “blue willow” pattern was especially popular with the first generation Irish family (Earlys) to occupy the site at the end of the nineteenth-century (more in the next chapter).

**Molded or embossed:** Molded designs were simplified on pearlware, as transfer printing became popular. Molded designs were revived with the introduction of whiteware in the late 1830s but they did not attain the elaborateness of previous forms (Figure 10.4). Specialized moldings for whiteware were common in the 1840s, when the ware had a more limited and generally, a more affluent market. During the 1860s molding tended to become more soft and shallow relief as opposed to the angular and sculpted forms of the 1840s and 1850s (Wetherbee 1980). During the 1870s and 1880s, molded decorations occupied smaller areas



on dishes, with elaboration confined to handles and lids. British stylistic trends dominated the embossed and molded whiteware industry throughout most of the 19<sup>th</sup> century (Wetherbee 1980).



**Figure 10.3.** Example of blue transfer printed whiteware (plate fragments) recovered from the Gallagher Homestead (Vessel W22, Unit 12, Levels 5 and 6).



**Figure 10.4.** Examples of whiteware plate with embossed patterning (Vessel W 9, Unit 8, Level 1).

Hand-painting: Handpainted (underglaze) decorations were applied to whitewares immediately after their introduction in the first quarter of the 19<sup>th</sup> century, and handpainting on ceramics is still used today. In the early 19<sup>th</sup> century, blue was the most frequently used color. Again, only colors capable of withstanding the heat of the glost firing could be applied. Greaser and Greaser (1967) reported that children were utilized by some Staffordshire potteries to produce handpainting on ceramics.

Colors of pink, green, yellow, and red were commonly used from about 1830 through the mid-19<sup>th</sup> century. The dominant motifs were banding or borderlines usually surrounding the rim, and floral designs. Without the complete vessel it is impossible to determine if the banding or border line sherds date to the 19<sup>th</sup> century or represent the ceramics that became popular in the early twentieth century (Majewski and O'Brien 1987:160).

The term “polychrome” refers to the use of more than one color in handpainting. Price (1979:21) suggested a ca. 1830-1860 time frame for handpainted whiteware ceramics recovered in Missouri, and Garrow and Wheaton (1986:Appendix 2, Page 6) utilized an 1830 - 1875 manufacturing range. When only one color was utilized, blue (cobalt oxide) was typically selected.

Gold borderline decorations – referred to as having gilt edges – are characteristic of late 19<sup>th</sup> and early twentieth century ceramics. These ceramics date from approximately 1890 through the early twentieth century (Hughes and Hughes 1968).

Decalcomania: Decal decoration was first used on porcelain toward the end of the nineteenth century, but did not appear in American-made ceramics much before 1900. Decals are applied to vessels prior to firing or glazing. The decals can include stipple and line-engraved motifs created using a lithographic process in an assortment of colors (Majewski and O'Brien 1984:36).

In contrast to the polychrome sprig and broadline floral style popular in the mid-nineteenth century, the floral decals are characterized by their use as a border or vessel accent (Figure 10.5). Frequently, these appear as small sprays of flowers applied off-center and were often applied in conjunction with thin-line border stripes, raised-border motifs, handpainting, and gilding (Majewski and O'Brien 1984:36). Occasionally, decals were lightly touched upon by hand in order to give a handpainted appearance. Majewski and O'Brien suggest that this motif began in the late 1800s as an inexpensive alternative to multi-colored



**Figure 10.5. Fragments of a teacup with polychrome floral decal and embossed decorations (Vessel W3, Unit 8, Level 1).**

handpainted techniques. They further suggest that this technique remained a popular method of decoration through the mid-twentieth century. Decal decoration can occur on whiteware, ironstone, and porcelain.

*Plain or undecorated:* This ware type includes dishes with no colored decoration or solid glaze. Plain whiteware can frequently exhibit some form of molding or embossing. While some researchers (Lofstrom et al. 1982:10 and Wetherbee 1980) include molded designs with “plain” white ware, we agree with Majewski and O’Brien (1987:153) that molded vessels should be grouped on their own. Plain white ware shards were the most common ceramic recovered from the site. Although some were clearly rims from undecorated vessels, it is likely that many of these shards are from undecorated portions of decorated vessels.

***Ironstone (N=40)*** Ironstone, a highly refined, vitreous, opaque earthenware with a clear glaze, is often indistinguishable from white ware, particularly when shards are being viewed. Ironstone differs from white ware in that the body is more vitreous and dense and a bluish tinge or a pale blue-gray cast covers the body. In some cases, a fine crackle can be seen in the glaze (Denker and Denker 1982:138); however, this condition is not restricted to ironstones. Confusion in the classification of white-bodied earthen wares if further compounded by the use of the term as a ware type or trade name in advertising of the nineteenth century. Both ironstones and white wares were marketed with names such as “patent Stone China,” “Pearl Stone China,” “White English Stone,” Royal Ironstone,” “Imperial Ironstone,” “Genuine Ironstone,” “White Granite,” and “Granite Ware” (Gates and Ormerod 1982:8; Cameron 1986:170). These names do not imply that true ironstone was being manufactured. Some investigators avoid the distinctions entirely by including ironstones as a variety of white ware, while Wetherbee (1980) adopted the opposite course, referring to all nineteenth century white-bodied earthen wares as ironstone. For this analysis, the primary determining factor in classification of a shard as ironstone was the hardness and porosity of the ceramic paste. Shards with a hard vitreous paste were classified as ironstone.

Charles James Mason is usually credited with the introduction of ironstone (referred to as Mason’s Ironstone China) in 1813 (Dodd 1964:176), although others, including the Turners and Josiah Spode, produced similar wares as early as 1800 (Godden 1965:xxiii). British potters as a competitive response to the highly popular oriental porcelain instigated this early phase of ironstone production. The ironstone of this early phase bears a faint blue-gray tint and oriental motifs much like Chinese porcelain.

A second phase of ironstone was prompted after 1850 in response to the popularity of a hard paste porcelain being produced in France. This variety of ironstone had a harder paste, and reflected the gray-white color of French porcelains.

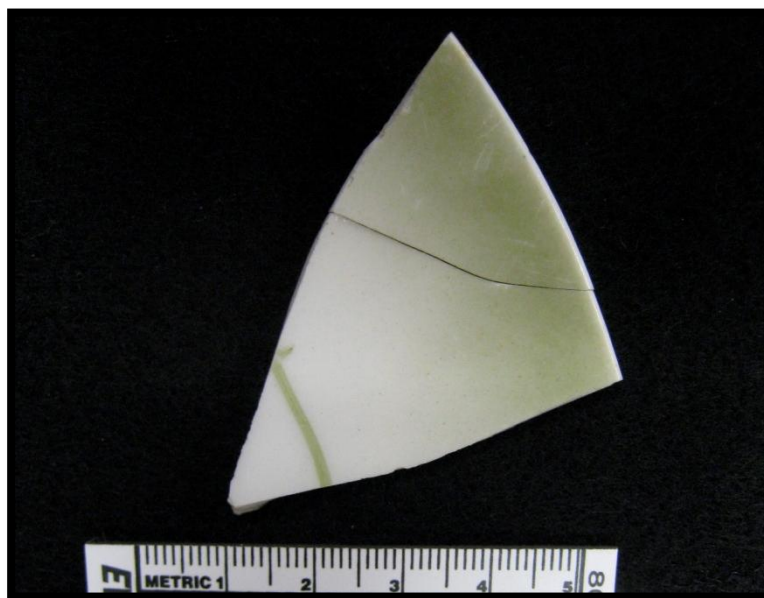
While some ironstones continued to use oriental design motifs, the general trend was toward undecorated or molded ironstones (Collard 1967:125-130; Lofstrom et al. 1982:10 in Majewski and O’Brien 1987) (Figure 10.6). Ironstone continued to be produced in England, and after 1870 it was manufactured by numerous American concerns. Majewski and O’Brien (1987) report that by the late 1800s thick, heavy ironstones were losing popularity and began to be equated with lower status (Collard 1967:135; Majewski and O’Brien 1987). Its production all but ceased by the second decade of the twentieth century (Lehner 1980:11). There was a shift to a thinner, lighter weight ironstone between 1870-1880. This ironstone was popular in American homes during most of the twentieth century (Majewski and O’Brien 1987:124-125). Heavy ironstone remained on the market, however, and was popular in both hotel/restaurant service as well as home use. Most of the ironstone pieces recovered from the Gallagher Homestead were undecorated, but there was one fragment of Gothic-paneled ironstone associated with the Warner family occupation of the site (see Chapter 11).





**Figure 10.6.** Fragment of an ironstone soup plate with an embossed design (Vessel I5, Unit 8, Level 5).

**Semi-Porcelain** ( $N=2$ ) As described by Worthy (1982:337), porcelainous stone ware or “semi-porcelain”, as Majewski and O’Brien (1987:12) called it, is a white bodied, highly vitrified ware that is between stoneware and porcelain (see also Boger 1971). Semi-porcelain may display several decorative techniques, but both pieces recovered at our site cross-mended and possessed a green border decoration (Figure 10.7).



**Figure 10.7.** Fragments of a semi-porcelain plate with simple green border design (Vessel SP1, Unit 5, Level 6).

**Yellowware** (*N=4*) Ramsay (1939:148) stated that yellow ware represents the transition from “pottery” to earthenware. The paste is finer than the coarse earthen wares but coarser than more refined earthen wares, such as white ware and ironstone. Prior to the gloss firing, the paste is a buff or cream color; however, the addition of an alkaline glaze creates a deep yellow upon firing. Yellow ware was universally a utilitarian ware – chamber pots, slop jars, urinals, mugs, pitchers, bowls, cuspidors, pie plates, food molds, and canning jars were produced.

For the purposes of this study, yellow ware is assumed to be American, although it is realized that the wares were generally of English inspiration and that some English yellow ware was imported into this country. James Bennett, an English emigrant who had just left Cincinnati in 1839, is generally credited with the introduction of American yellow ware to East Liverpool in 1840 (Stout 1923:16; Gates 1984:47). Vodrey and Frost of Pittsburgh were the first to produce yellow ware in the United States, perhaps as early as 1827 (Ramsay 1939:74; Ramsay 1947). Yellow ware, produced in molds, was very susceptible to mass production, and other potters in Ohio, Vermont, and New Jersey opened factories in the 1840s. Ohio was one center of yellow ware manufacture, and it is estimated that in 1850, half of all U.S. yellow ware was manufactured in East Liverpool (Gates 1984:47). Yellow ware is rarely marked, although William Bromley, who operated potteries in Cincinnati and Covington during the mid- nineteenth century, included an elaborate molded mark on some of his finer Cincinnati pieces (Genheimer 1987).

One decorative treatment of yellow ware, called Rockingham, is simply a mottled, brown-glazed yellow ware. It is sometimes referred to as Bennington ware; however, it was manufactured throughout the eastern United States. A glaze of pure oxide of manganese produced a brown or purple brown tint resulting in a mottled or streaked effect (Hughes and Hughes 1956:130). Originally, Rockingham ware referred to ornate porcelain manufactured between 1826 and 1842 at Swinton, Yorkshire, England on the estate of the Marquis of Rockingham (Dodd 1964:232). Hence, the term is not actually paste specific; the characteristic glaze was applied to red wares, white wares, porcelain, and yellow ware. Rockingham wares were introduced to the United States around 1845 by Christopher Webber Fenton at Bennington, Vermont. Yellow ware potteries in East Liverpool and other parts of Ohio and the eastern United States, quickly took up its production. Bennington designs were closely copied in Ohio, including hound- handled pitchers, book flasks, picture frames, mugs, pie plates, and milk pans (Ramsay 1939:76-77). During the mid- nineteenth century, both Rockingham and yellow ware were marketed as “Liverpool” ware and “Queens ware” (Gates and Ormerod 1982:7). Another prominent decorative treatment for yellow ware includes the application of bands, which were usually blue, white or brown in color. All fragments recovered at the Gallagher Site were undecorated and probably fragments of a larger decorated vessel.

**Stoneware** (*N=18*) Stoneware served as the “daily use” pottery of America, particularly rural America, after its introduction during the last decade of the eighteenth century. Stoneware is a vitreous, but opaque ware, manufactured of a naturally vitrifying fine, but dense, clay. The pottery was fired longer and to a higher temperature than earthen wares; a kiln temperature of at least 1200 to 1250 degrees centigrade must be obtained (Dodd 1964:274-275; Cameron 1986:319). As a result, stoneware exhibits a hard body and a very homogeneous texture.

Its body is nonporous and well suited to liquid storage. It is not a refined ware, and it was typically utilized for utilitarian purposes such as jars, churns, crocks, tubs, jugs, mugs, pans, and pots. The paste may vary from grays to browns, depending on the clay source and length and intensity of the firing. Vessels were typically glazed; salt glazing and slip glazing were the most common.

Although salt glazing was practiced in England during the eighteenth century, it was not introduced to the United States until the early nineteenth century. Indeed, by 1780 the production of English salt glaze had been virtually supplanted by the manufacture of cream colored earthen wares (Lewis 1950:29). Salt glazing was accomplished by introducing sodium chloride into the kiln, where it quickly volatilized. The vapor reacted with the clay to form a sodium aluminum silicate glaze (see Billington 1962:210; Dodd 1964:239). The surface of the glaze is typically pitted.



*Container Glass (N=601)*

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.

**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 (Baughner-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 (Figures 10.9 and 10.10).



**Figure 10.9. Blown-in-mold fruit jar fragment with ground lip (Vessel F25, Unit12, Level 6); likely dates between 1864 and 1920.**





**Figure 10.10.** Blown-in-mold medicine bottle with hand finish; amethyst glass; 1880-1914 (Vessel M11, Unit 12, Level 3).

*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 (Figures 10.11 and 10.12).



**Figure 10.11.** Pepsi-Cola bottle, 1960-1969 (Vessel B10, Unit 8, Level 1).



**Figure 10.12. Amber medicine bottle, 1903 to present (Vessel M3, Unit 8, Level 3).**

*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 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 (Baughner-Perlin 1982:261). Clear, blue, brown, aqua, olive, amethyst, and milk were all colors represented in glass shards and containers.

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.

#### *Food Containers (N=670)*

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 (Figure 10.13).



**Figure 10.13. Key opener for tin can recovered from Unit 8, Level 1.**

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.

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, and 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.

### *Container Closures (N=139)*

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-19<sup>th</sup> 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.

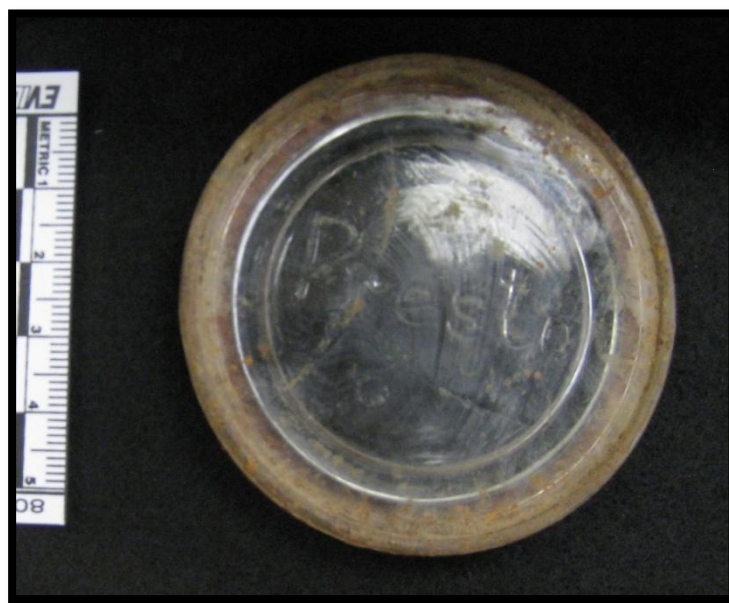
Most glass stoppers use ground or roughened tapered stems along with a roughened finished inside to seal bottles. Loose blown-glass stoppers date to circa 1500 B.C., and tapered glass stoppers date to A.D. 500 (Holscher 1965 from Berge 1980). The "modern" ground and tapered glass stopper was developed 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-20<sup>th</sup> 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 (Figure 10.14).

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.



**Figure 10.14. “Presto” fruit jar lid/closure, 1925-1946 (Vessel F31, Unit 10/root cellar, Level 1 of Zone A).**

#### *Glass Tableware (N=37)*

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 feet 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 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) (Figure 10.15).



**Figure 10.15. Amethyst press-molded glass candy dish, 1880-1914 (Vessel S1, Unit 8, Levels 1-3).**

### *Housekeeping (N=2)*

Artifacts considered to be used primarily in a domestic setting were included in the Housekeeping class of artifacts. These objects from the Gallagher site included only two straight pins.

### *Cookware (N=43)*

The cookware classification includes all items that may be used in the preparation of food. All of the items in this category were pieces of aluminum foil (1892- present; Bellis 2005).

### *Utensils (N=2)*

Utensils refer to eating and serving flatware. One fork (Figure 10.16) and one handle of an indeterminate utensil were recovered from the Gallagher site during the 2010 excavation.



**Figure 10.16. Fork recovered during the excavation of Unit 8, Level 1.**

### *Faunal/Floral (N=267)*

A total of 267 faunal and floral remains were recovered from the site. The fauna included 158 fragments of bone 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 109 items, including peach pits, pumpkin seeds, walnut shells, and hickory nuts. Some of these may have been consumed by the family (such as peaches), while others may have been grown for sale (like pumpkins). The walnuts and hickory nuts may be naturally occurring. Several pieces of dessicated fruit were recovered during the excavation in the root cellar of the house, but have not yet been identified.

The foods families eat are highly cultural and often sensitive indicators of ethnicity and class status. Following the 2011 excavation, the faunal and floral remains from the Gallagher site will be sent to specialists who will supplement these cursory identifications with more detailed interpretations.

### *Furnishings (N=147)*

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 Gallagher Residential Site include: 18 decorative elements (such

as two possible figurine fragments, mirror pieces, and a decorative vase), two furniture-related artifacts (such as probable drawer pull handles), one heating object (part to a cast iron stove), and 82 lighting artifacts (primarily fragments of light bulb glass and lamp chimney fragments), and 44 fragments of what appear to be carbon components of a radio or other early electronic.

*Maintenance and Subsistence Group (N=492)*

The Maintenance group contains artifacts related to general maintenance activities. These artifacts were grouped into classes containing cans and non-food containers, electrical elements, farm and garden objects, fuels such as coal and cinders, general hardware, general tools, hunting and fishing, stable and barn artifacts, and items related to transportation.

*Automobile (N=2)*

Two automobile components were recovered during the 2010 excavation at the Gallagher Homesite. One gear shift handle and one section of exhaust pipe were documented.

*Cans and Non-Food containers (N=35)*

Cans for fuel, oil, and other liquids not used for consumption were placed in this class of artifacts. Objects recovered from this category included sections of burlap box, pieces of cardboard boxes, and oil can fragments among other artifacts.

*Electrical (N=20)*

Items included in this class were objects such as insulators, electrical wire, batteries, electrical tape, and any other item associated with electricity. The assemblage contained an assortment of electrical tape, electrical wires, and appliance plugs.

*Farming and Gardening (N=33)*

This class includes artifacts associated with gardening activities. The artifacts from the Gallagher Residential site included pieces of common clay flower pot and plastic plant stakes.

*Fuels (N=223)*

This group of artifacts includes coal, cinder, and containers indicative of fuel. The largest proportion of artifacts from the Maintenance and Subsistence group were fuels. Pieces of coal, coal slag, clinkers, and cinders were encountered during the excavation of the Gallagher site.

*General Hardware (N=124)*

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 bolts, brackets, cord, fasteners, fencing and fence staples, gaskets, hinges, hooks, latches, nuts, flecks of paint, screws, springs, tacks, washers, and wire.



*General Tools (N=20)*

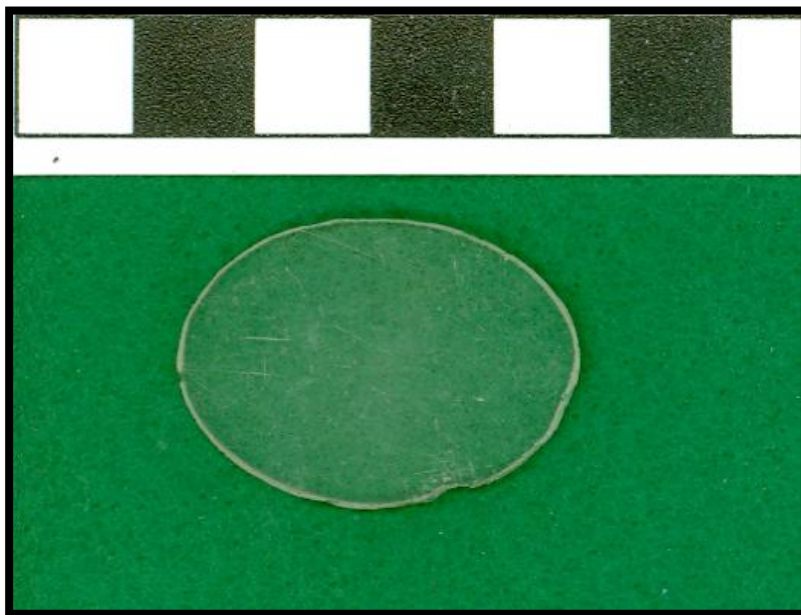
This category incorporates tools of everyday use such as hammers, files, pliers, and shovels. The objects in this category included hose nozzles, bristles, zip ties, and stakes, among other things.

*Indeterminate (N=28)*

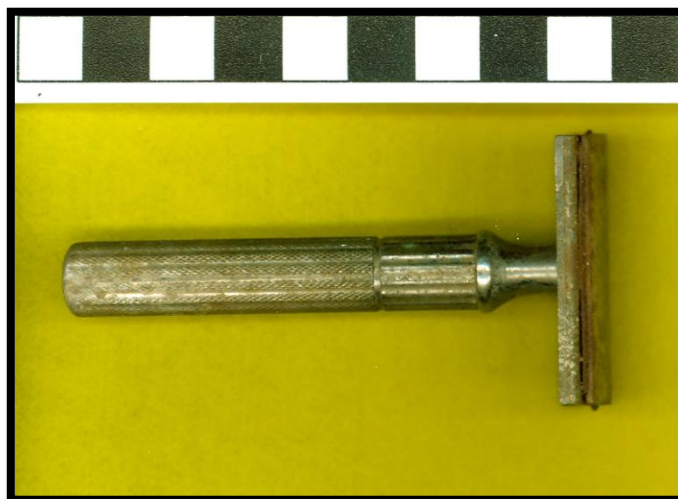
There were 28 objects that appeared to belong to the maintenance and subsistence group, but were too fragmentary, heat-altered or damaged to allow further identification.

*Personal Group (N=81)*

The Personal Group includes artifacts assumed to have belonged to individuals. This category of artifacts includes health and grooming, jewelry and beads, money, personal, and toys and games. Health and grooming objects included an eyeglass lens (Figure 10.17), a toothpaste tube (“Colgate Dental Cream”), two razors (Figure 10.18), a comb, and a packet from “Alka-Seltzer.” Jewelry artifacts consisted of key rings, personal alarms, an earring (Figure 10.19), two religious medallions (Figure 10.20), a child’s necklace, and a watch band. Several coins were recovered, including three pennies (1873, 1904, 1918) and a dime (1905). Ten Charlevoix County dog tags were also documented in the assemblage from the Gallagher Site, one of which was from 1921 while the others were from 1925 (Figure 10.21). Three tobacco-related artifacts were also recovered – two plastic pipe stems and an undecorated ceramic pipe bowl. The remaining objects from the site belonged to the toys and games category and consisted of bits of vinyl records, wooden blocks, possible tractor parts, and other items.



**Figure 10.17. Eyeglass lens recovered from Unit 1, Level 7.**



**Figure 10.18.** Safety razor, double-edged, not adjustable, 1875-1960 (Unit 12, Level 2).



**Figure 10.19.** Loop earring with faux gem inset decoration (Unit 8, Level 2).



**Figure 10.20. Religious medallions:** Object on the left possesses only a simple cross design on one side (Unit 9, Level 5). Artifact on the right has a figure that appears to be Jesus and inscribed with “Holy Year 1950.” On the reverse appears “Almighty God/ We thank thee/ For the great gifts/ of the/ Holy Year./ Pius PP.XII” (Unit 12, Level 3).



**Figure 10.21. Samples of the dog tags recovered from Unit 8, which are inscribed (for example) “DOG/ LICENSE/ MICH./ 236/ COUNTY OF/ CHARLEVOIX/ 1925.”**

*Indeterminate (N=261)*

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.