

# Archaeology

a t t h e A r c h

BY DON BOOTH





(Left and above) Archaeologists from SCI Engineering carefully excavate a cistern feature on the Arch grounds. The feature was discovered as a new storm sewer line was being prepared in 2014. (Image: Don Booth and SCI Engineering)

As the archaeologist removed a layer of charred material from the brick cistern, fragments of ceramics began to appear. The Gateway Arch was gleaming in the sunlight hundreds of feet overhead. Who might have guessed that just yards away from the famous St. Louis icon, deep underground, a treasure trove of artifacts awaited discovery. As items emerged from the black material where they had been buried more than 160 years, the archaeologist contemplated how the various objects and fragments would have no value to collectors or those looking for gold or precious metals. These were the type of artifacts that were valuable to archaeologists and historians because they told vivid stories of the past. As the dig continued, it was certain that it would reveal a great deal about St. Louis' past.

Like the rings of a tree or the lines found in sedimentary layers of rock, every city has a physical history in its succession of built structures and landscapes. Some cities have been fortunate to preserve a few of their earliest buildings, or at least their original street grids. For others, like St. Louis, it is very difficult to discern the city's original physical appearance by looking at the contemporary streetscape or even by trying to match modern features with historic maps. No original structures dating to the first 40 years of the city's history survive within the street grid. The only antebellum buildings still standing downtown are the Old

Cathedral (1834), the Old Courthouse (1839–1862), the Field House (1845), the Campbell House (1851), St. Mary of Victories Church (1843), and several commercial buildings in Laclede's Landing. With so much lost or unknown physical and visual information, archaeology is one of the few ways in which the historic period of St. Louis can be investigated.

One of the chief impediments to an archaeological investigation of the earliest portions of St. Louis is the federal project known as the Jefferson National Expansion Memorial, inaugurated in 1935. Centered on Market Street and the site of the original colonial town, the project replaced the original street grid with park land. It resulted in the demolition of nearly every structure on 37 of the original 50 blocks of the city. Between 1963 and 1965 the Gateway Arch was constructed within the park, symbolizing St. Louis' role in the westward expansion of the United States during the nineteenth century.

Because the memorial is a National Park Service site, little archaeological work has been performed there since the Arch was built in the 1960s. Even prior to that time, only select areas of interest were investigated, most extensively by National Park Service archaeologist Zorro Bradley on the former site of William Clark's home and Indian agency in 1961. Since the inception of the Gateway Arch, the only archaeological work performed has been in areas where major construction projects were to take

The cistern feature as it looked before excavation, with some artifacts visible on the surface. (Image: Don Booth and SCI Engineering)



place, like the Gateway Arch Parking Garage in 1985 and the grounds maintenance area in 2000.

New opportunities for archaeological work arose with the major revitalization of the memorial proposed in 2009. After an international architectural competition in 2010 and a massive \$380 million fundraising effort by the City-Arch -River organization, work commenced in 2013 on several areas of improvement in the park. In a project of such size to be conducted within a National Park Service site, archeological concerns were immediately addressed. Although historical structures were removed in the early 1940s, there was always a chance that St. Louis' birthplace, with known habitation stretching back to 1764 for the French and at least a thousand years earlier for Native Americans, might yield archaeological artifacts or information. Federal law provided that test borings had to be conducted in areas of the landscape where construction would take place. With a negative finding of results, construction could proceed, with the caveat that any inadvertent discoveries of significance would be investigated by a contract archaeology firm. This scenario came to pass in

two instances during the 2013–2017 construction, and the exciting discoveries of several significant archaeological features has provided new material for historians of material culture to study, as well as fascinating artifacts for display in the new museum.

Working closely with construction contractors, the Midwest Archaeological Center of the National Park Service sent archaeologists to monitor construction in areas likely to yield archaeological deposits. If and when artifacts or structures were encountered SCI Engineering, Inc., was contracted to mobilize within 24 hours to begin excavations. In addition, contractors were bound to report suspicious deposits anywhere on site when an archaeological monitor was not present. This aspect of the project was effective, as archaeologists were called on numerous occasions to investigate.

Most of these calls proved to be false alarms, but in March 2014, during the machine excavation of a storm sewer near the north leg of the Gateway Arch, a remnant of a brick-lined cistern was revealed. Located in what would have been City Block 32, this cistern lay beneath the limestone foundation of a later building. An ink bottle with a patent date of April 13,

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Artifacts as they appeared just after excavation, prior to cleaning. Note the turtle shell on the right and intact bowl and bottles in the center and to the left. (Image: National Park Service, Gateway Arch National Park)



1875, and a “Wetter & Mehrkens” soda water bottle from ca. 1875 were found in the uppermost layer, representing the most recent deposits in the cistern.

Deep holes in the ground, whether they were privy vaults, cisterns, or wells, provided handy areas of trash disposal for our ancestors. As soon as a feature was no longer usable, it was gradually filled in with trash. Privies, cisterns, and wells provide some of the most fertile areas for archaeological investigation, and such finds are approached with cautious anticipation by archaeologists. Most members of the general public who have never participated in an archaeological dig can imagine the challenges of physically removing the soil and carefully looking for evidence. Few think about the great amount of historical research that is conducted, sometimes under tight deadlines, to try to place the find in the context of the history of the site.

Research revealed that City Block 32 was completely destroyed in the Great Fire of 1849. The oldest detailed reference for this block was the 1870 Whipple Fire Insurance map, which showed the results of the rebuilding of the block that began around 1850. The map appeared to suggest that a limestone foundation was built atop the cistern sometime after 1850. It was assumed that the construction of the 1850s foundation resulted in the exposure of the older cistern and that the cistern remained partially open through at least the mid-1870s when the datable bottles were deposited.<sup>1</sup>

Below the upper layer of material in the cistern (1850s through 1870s), the next deposit consisted of roughly one foot of charred wood, ash, and other burned debris. Below this zone of burned material, the cistern yielded a large collection of material dating to the 1840s. It is considered likely that the burned layer represented debris from the Great Fire of 1849. The contents of the cistern below the burned layer proved to be fascinating for what they revealed about material culture in early St. Louis. This was the treasure trove. With so many artifacts, there was a good chance that new understandings of the past might come to light.

Some of the less glamorous but more important artifacts were the slightly more than 1,300 animal bones recovered from the cistern. For the most part, these bones represented butchered domestic animals, with an occasional occurrence of wild animals like deer, fish, and turtle. There were also a large number of oyster shells.

The glass artifacts recovered contained a large proportion of wine and whiskey bottles and lead glass tumblers. The manufacturing techniques present on the bottles were typical of early to mid-



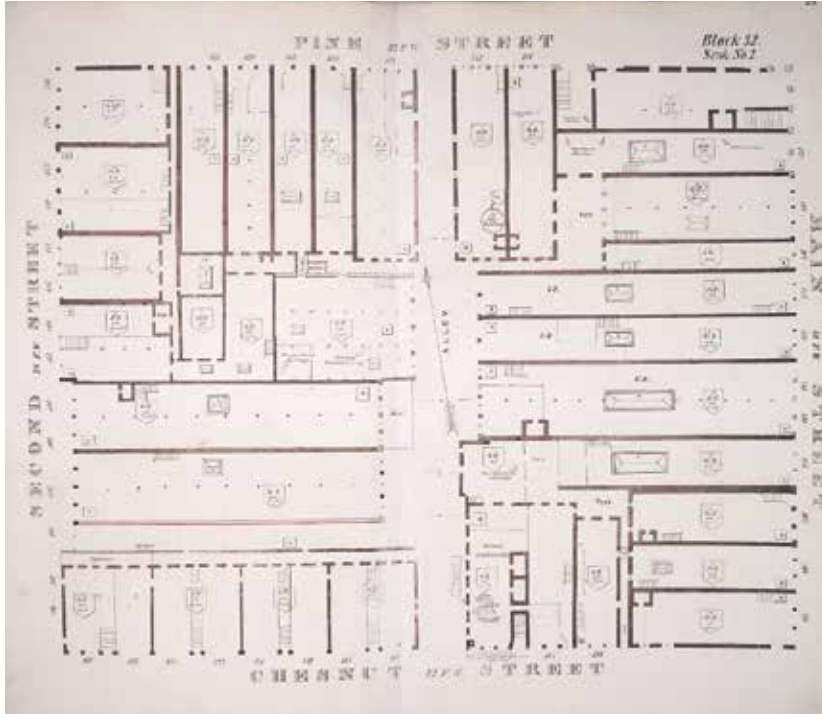
The cistern feature at the point when archaeologists had reached the bottom and removed all of the fill. (Image: Don Booth and SCI Engineering)

nineteenth century bottle production. The ceramics exhibited early to mid-nineteenth century decorative elements and maker’s marks. The bulk of these items was imported from the great ceramic production area of Staffordshire, England, and included plain whiteware, transferware plates with elaborate designs in several colors, and simpler hand-decorated items using simple lines, floral patterns, and cat’s eye motifs. None of the objects were extraordinary or unusual examples, but the condition of many, some nearly intact, was surprising.

The interesting aspect of the ceramic collection was the large number of matching ceramic vessels from the same manufacturer with the same decorative pattern. This is highly unusual in most historic archaeological sites. The implication of these shared features is that they represent sets of dishes. In individual households, broken plates, cups, and saucers were replaced as needed, resulting in a hodge-podge of differing designs and makers based on what was available at the time while, on the other hand, commercial operations often purchased their service pieces in bulk. In addition to the imported ceramics there were also locally manufactured utilitarian items of redware and yellowware, which included bowls, pitchers, and chamberpots.

Also present were a nearly complete yellowware chamber pot, a stoneware spittoon, a complete stoneware bottle, a complete mustard jar imported from Paris, France, and fragments of a Black Basaltware inkwell manufactured by Wedgwood. One surprise was the recovery of the majority of the metal portions of a Belgian brass pocket pistol.

Just as important as what was recovered from the cistern is what was not recovered. Lacking from the



A. Whipple & Co.'s Insurance Map of St. Louis, 1870, showing Block 32. These accurate fire insurance maps are one of the best resources in determining the placement of buildings in the city. (Image: Missouri History Museum)

collection were items commonly found in individual household sites. Things like buttons, straight pins, children's toys, and nails were notably absent in the material recovered from the cistern. Instead, items usually associated with social activities were dominant. Things like clay tobacco pipes; spittoons; tableware, including plates, platters, cups, saucers, and salt cellars; drinking glasses; flasks; and wine and liquor bottles all reflect the social context of the artifacts.

The large number of animal bones, the presence of a substantial quantity of liquor bottles and drinking glasses, as well as the evidence of entire sets of ceramic dishes led to the conclusion that the 3,812 artifacts recovered from the cistern were derived from a commercial operation—a tavern, an inn, or a restaurant. Documentary research revealed that a hotel was located on the northeast corner of Block 32 at the street addresses 42 to 44 North Main Street prior to the Great Fire of 1849. Originally known as Kibby's Washington Hall, this hotel was located in a three-story brick building built by John McKnight and Thomas Brady in 1816.<sup>2</sup> The first floor of the building contained two storefronts, while the second and third floors served as the hotel, comprised of sleeping rooms and a large hall for public gatherings. This structure, the seventh brick building built in



Archaeologist Don Booth (background) stands near one of three tables covered with the very best artifacts found within the cistern feature at the Arch. Many of the 3,812 artifacts recovered were in unusually good condition, some completely intact. (Image: National Park Service, Gateway Arch National Park)



An intact wine bottle (left) and a whiskey bottle (right).  
*(Image: National Park Service, Gateway Arch National Park)*

St. Louis, was also noted as being the first building constructed specifically to serve as a hotel.<sup>3</sup>

Timothy Kibby began operating the hotel in the fall of 1816 and hosted the first observance of Washington's birthday west of the Mississippi in February 1817. By 1820, however, the hotel was

repurposed as a boarding house. Sometime before 1840, it became a hotel known as the Jefferson House, operated by Elijah Curtis,<sup>4</sup> while by 1848 the name had been changed to the Papin House.<sup>5</sup> The conclusions made by the archaeologists were that the 1840s materials recovered from below the burned layer in the cistern represented trash disposal from either or both the Jefferson House and Papin House inns.

It can be assumed that people passing through St. Louis, traveling to all points of the compass by steamboat on the inland waterways, stopped at hotels like this one for one or more days at a time. For this reason the items found in the cistern provide a window into the functions and the equipment available to important early commercial establishments in the city.

These objects, and the other artifacts recovered from the 1840s deposits, would have been items typically encountered by the local residents as well as those passing through the city on their way westward. They give us an idea of the types of materials available in St. Louis during the 1840s, with imports from many nations. They also provide insight into what materials were available in hotels and restaurants of the period. For this reason exhibit designers felt that it was essential to display the best of these items in the new, expanded museum under the Arch.

Another major archaeological deposit was uncovered by contractors installing new utilities along the north edge of Poplar Street on the southern boundary of the park in what would have been Block 39. The historic maps of the area demonstrated that when the park was built in the 1960s Poplar Street was moved roughly 100 feet to the north. That would mean that the deposits uncovered along the edge of

A Staffordshire brown transferware plate, front and back. The maker's mark on the back reveals that the plate was made by Ridgway, Morley, Ware and Co., which was in business between 1836 and 1842. *(Image: National Park Service, Gateway Arch National Park)*





(Above and below) One of the most spectacular finds was a complete (unbroken) slip-decorated bowl imported from England and dating to the 1840s. The bowl exhibits decorations including wavy lines and a tri-color "cat's eye" motif. The lines were created by piping a thin slurry of colored clay onto the surface of the vessel before firing. The tri-color design was made with a specialized tool, which dispensed three different colored slips simultaneously. The cup fragment below on the left shows the effect of rotating the tri-colored tool when applying the thick, zig-zag line seen here. (Image: National Park Service, Gateway Arch National Park)

today's Poplar Street were originally in about the center of Block 39. These deposits turned out to be three wood-lined privies dating from the mid-nineteenth century. Unfortunately, during the first weekend after their discovery, looters disturbed two of these deposits, mixing their fills and leaving only six to eight inches of the privy deposits intact in each. In addition, these privies had been previously disturbed by the installation of utility lines along the northern side of Poplar Street.

Labeled F.1 through F.3, privies F.1 and F.2 were immediately adjacent to each other while F.3 was located roughly 40 feet to the east. F.1 and F.3 contained artifacts dating to the 1850s, while F.2 contained materials dating from the late 1830s or early 1840s. All three were similar in size and method of construction, with vertical wooden planks

lining the privy vault walls.

Historic documents indicated that these privies were likely associated with boarding houses and tenements that existed in Block 39. The contents were all somewhat similar, containing typical household debris. F.1 yielded 1,067 artifacts including 210 pieces of broken ceramics, 249 shards of bottle glass, fragments of lead glass tumblers and whiskey flasks, pieces from a pair of glass candlesticks, milk glass buttons, 180 pieces of animal bone, and several peach pits. F.2 contained 2,528 artifacts with the collection dominated by 789 shards of container glass. This assemblage was primarily bottles, but also present were examples of a demijohn, a handblown pitcher, lead glass tumblers, and whiskey flasks. Ceramics were well represented with 387 sherds collected. In addition to the 431



animal bones recovered, food items also present were oyster shells, watermelon seeds, pawpaw seeds, and peach pits.

Personal items included milk glass buttons, shoe leather, and children's marbles. Of special note was the recovery from F.2 of a Spanish Two Reale piece dating from the early 1780s. It was learned that this early coin, and other non-U.S. silver coins, were in active circulation into the 1850s. The excavation of F.3 resulted in the recovery of 1,577 artifacts. This assemblage included 359 pieces of broken ceramics and 388 shards of container glass, including lead glass tumblers and whiskey flasks. Items of a more personal nature included fragments of ceramic dolls, clay tobacco pipes, milk glass buttons, shoe leather, and a pocket knife.

The looting of F.1 and F.2 was unfortunate. From the remaining intact deposits of F.1 and F.2, fragments of four scroll flasks (whiskey flasks), 13 tumblers, and one shot glass were recovered. These numbers would not be considered unusual except for the fact that the mixed fill left from the looter's activities contained 21 more tumblers, three more scroll flasks, and an additional shot glass. This was a rather large collection of drinking paraphernalia and would seem to imply that at least one of these privies, F.1 or F.2, was associated with a drinking establishment.

Historically, this portion of the riverfront contained a number of taverns and brothels. Sadly, because the looters disturbed the deposits before archaeologists had a chance to properly excavate them, it will never be known with certainty if these privies were related to these establishments. In any event, the materials recovered from the intact portions of the three privies provided a glimpse into the material

culture of everyday life of the mid-nineteenth century inhabitants of this part of the city. They included more personal items than those found in the Jefferson House site, including a simple necklace cross and children's toys, like clay marbles, a toy plate and a porcelain doll's head—the things associated with the residents' everyday life—while a portion of an absinthe bottle, whiskey flasks, drinking glasses, and vaginal syringes were potential evidence of the commercial tavern/brothel life.

Despite the difficulties of conducting archaeological investigations while construction activities are ongoing, it can be said that the monitoring project at the Gateway Arch was quite successful. The primary lesson of the project was the fact that, despite decades of building, demolition, rebuilding, and extensive landscape modification, beneath the layers of rubble intact archaeological deposits associated with the early history of the city can still be found. Another success of the project, and likely more significant, is the fact that federal, state, and city entities, Native American nations, as well as special interest groups, contractors, and individuals came together to devise a plan to recover and preserve a small portion of the heritage of the City of St. Louis. This project will provide material for future study and some extraordinary artifacts for display in the new museum.

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Mustard pot imported from Paris, France. (Image: National Park Service, Gateway Arch National Park)



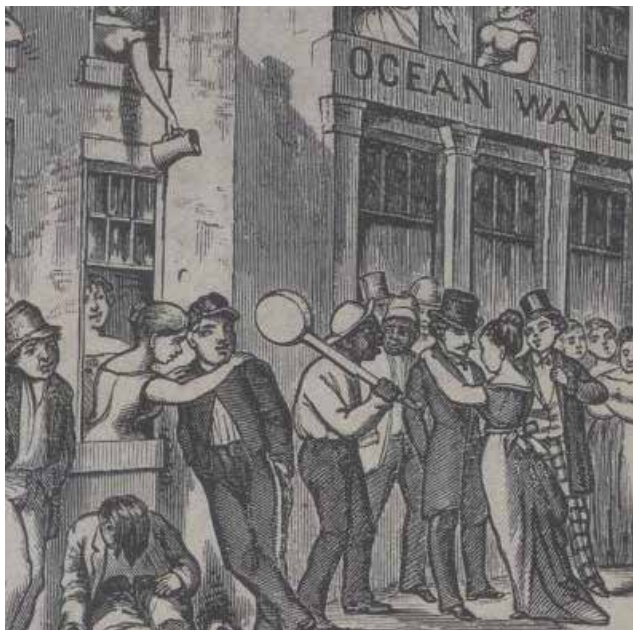
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Yellowware chamber pot likely of American manufacture. (Image: National Park Service, Gateway Arch National Park)





A conjectural reconstruction by Bob Moore of the Washington House Hotel at the corner of Main and Pine streets, as it may have looked in 1821, using the Sketchup 3D computer drawing program. (Image: National Park Service, Gateway Arch National Park)



Depiction of the Almond Street-Poplar Street brothel area in Dacus and Buell's 1878 *Guide to the City of St. Louis*. (Image: Missouri History Museum)



Staffordshire blue transferware bowl. (Image: National Park Service, Gateway Arch National Park)



Heavily corroded remains of a brass Belgian pocket pistol (below) along with a photo of an intact specimen (above). (Image: National Park Service, Gateway Arch National Park)

## ENDNOTES

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- <sup>1</sup> A. Whipple & Co., *A. Whipple & Co.'s Insurance Map of St. Louis, Mo.: Surveyed & Drawn by C.T. Aubin* (St. Louis: John Gast & Co. Lithographer, 1870).
- <sup>2</sup> Frederick Billon, *Annals of St. Louis in its Territorial Days from 1804 to 1821, Being a Continuation of the Author's Previous Work, The Annals of the French and Spanish Period* (St. Louis: The Nixon-Jones Printing Co., 1888), 232.
- <sup>3</sup> Ibid.
- <sup>4</sup> Charles Keemle, *St. Louis Directory for the Years 1840–4* (St. Louis: C. Keemle, 1840), 14.
- <sup>5</sup> J.H. Sloss, *The St. Louis Directory for 1848* (St. Louis: Charles and Hammond, 1848), 179.