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E. STATEMENT OF CONTEXTS

The Discovery of East Tennessee Marble, 1838-1850

The first published mentions of marble in East Tennessee began in the late 1810s as natural scientists, itinerant ministers, and travelers through what was then considered the backcountry of southwest Virginia, western North Carolina, and the eastern sections of Tennessee and Kentucky began to note the presence of marble in Tennessee. Their accounts appeared in such publications as the *American Journal of Science* and attracted national attention to what would become, by the 1880s, one of Tennessee's best-known natural resources.¹

Yet some of East Tennessee's prominent early citizens certainly had seen possibilities for using the native stone. Francis Alexander Ramsey's 1797 home, Swan Pond, now known as Ramsey House (NHRP 12/23/1969), is located just east of the confluence of the Holston and French Broad rivers, which form the Tennessee River northeast of Knoxville. This imposing, two-story Federal style house is one of the earliest known examples of the use of Tennessee marble as a dimensional stone. Ramsey's slaves may have worked alongside master mason Seth Smith, or at the behest of house designer Thomas Hope, on the contrasting blue stone quoining and coursework and hewn pink marble blocks of Ramsey's impressive home place.²

The "Old Stone House" in Blount County, a substantial building erected for Quaker settler Samuel Frazier (NRHP, 7/25/1989) from marble quarried about 200 yards from the home site is the closest counterpart to Ramsey house. It may have been much more than a domestic dwelling. Prominently sited on a ridge above a year-round creek, the thick-walled stone building functioned as an inn, an academy, and a frontier outpost. While this house has none of the distinctive blue coursework of the Ramsey House, it appears to date from the same time period; it is similar in size and in its simple Federal style footprint. The quoined corners recall those of the Ramsey House. The scale of the house, with its two full-height stories, and its location near an outcropping of local stone suggest that it was planned with available building materials at hand. Its association with one of Blount County's earliest Quaker settlers suggests a possible connection with known builder and fellow Quaker Seth Smith. One distinction that sets the Samuel Frazier house apart from the Ramsey House is its first floor layout: a "Quaker" plan in which one room is divided into two with individual fireplaces in each.³

John Sevier's Marble Springs (NRHP, 5/6/1971), a circa 1800 homestead, was more than likely a log structure but its name was derived from the deposits of marble in the nearby Neubert Springs area, which is in the vicinity of Bays Mountain.⁴ An 1814 journal entry reveals that Sevier carried a marble sample to the U.S. Capitol to show to one of the Italian master carvers.⁵

¹ John H. Kain, "Remarks on the Mineralogy and Geology of the Northwestern* part of the State of Virginia, and the Eastern part of the State of Tennessee" *American Journal of Science* I, no. 1 (1818):60-67; Elias Cornelius, "On the Geology, Mineralogy, Scenery and Curiosities of Parts of Virginia, Tennessee, and the Alabama and Mississippi Territories, &c. with Miscellaneous Remarks, in a letter to the Editor," *American Journal of Science* 1, no. 3 (1819): 214; [J.D. Clifford], *The Western Review and Miscellaneous Magazine, a Monthly Publication, Devoted to Literature and Science* 2, no. 6 (1820): 323.

² Charles Faulkner, *The Ramseys at Swan Pond* (Knoxville: University of Tennessee Press, 2008), 54, 66-67.

³ Phil Thomason, *Samuel Frazier House* (NHRP, 7/25/1989),

⁴ Carroll Van West, "Marble Springs," in *Tennessee Encyclopedia of History and Culture*, 570-71.

⁵ Sevier Letters and Papers, Mississippi Department of Archives and History.

The explorations and publications of Tennessee's first state geologist, Gerard Troost, M.D. had the single greatest influence on the opening of the marble industry in Hawkins County, Tennessee, near the city of Rogersville. Having first noted the presence of marble in several locales of East Tennessee in his 1831 report to the Tennessee General Assembly, Troost sent a much more detailed description to an "anonymous gentleman" in Rogersville on 27 August 1838, which was published the following April. Referring to "the specimens of marble you handed me, when I visited last Spring East Tennessee, and those which you have sent me since," Troost described these marble samples, concluding: "I do not know any European or Egyptian (as some Italian marbles are here called) equal in beauty with the Tennessee marble, as well for its variegations as for its polish."⁶ In 1855, Cumberland University Professor James M. Safford, who succeeded Troost as State Geologist, reported that the Rogersville Marble Company, founded in 1838 under the direction of Orville Rice and S. D. Mitchell, had been the first in the state.⁷ Hawkins County Historian Henry R. Price has described Rice's quarry (location not determined) as being on Caney Creek.⁸

According to an article in the first issue of the *Railroad Advocate*, a newspaper founded in Rogersville in 1831 to support the local efforts to build a railroad, Rice was a member of the committee charged with trying to secure railroad service in the area.⁹ The prosperous Rice's three-story brick mansion, several miles west of Rogersville near Mooresburg, was named Marble Hall (not extant).¹⁰ The location of Marble Hall could be indicated by the presence of brick rubble on a level site located on Marble Hall Road, just off of the historic and current main road corridor, Highway 11E, between Rogersville and Rutledge.

Rice used Marble Hall as a showplace for the marble floors, doors, windowsills, and mantelpieces made by his company. By 1851, he had a new partner in the business. An advertisement that ran on 16 January in the *Rogersville Times* for the marble factory of Rice & Edmonds announced new quarries "of very superior marble." Furthermore, it indicated that "one of the partners having had more than twenty years of experience in some of the best establishments in Europe and the Eastern Cities," Rice & Edmonds could furnish "monuments, both plain and ornamental," as well as "marble mantels, centre tables, side tables, bureau tops, vases" from their address at "Marble Hall, Hawkins County, Tenn".¹¹ Rice's marble factory (location not determined), which used water-powered machinery and employed at least six persons, is the only establishment listed under marble in the United States *Seventh Census: Manufactures* for Tennessee in 1850.

Rice promoted his business within the state and on the national level. He was acquainted with architect William Strickland, who was overseeing the construction of the Tennessee State Capitol

⁶ *East Tennessean* (Rogersville) v. I, no. 1, 2 April 1839.

⁷ J.M. Safford, *A Geological Reconnoissance of the State of Tennessee, being the author's First Biennial Report presented to the 31st General Assembly of Tennessee, December 1855*, by James M. Safford, A.M., State Geologist, Professor of Natural Science in Cumberland University, Lebanon, TN. (Nashville: G. C. Torbett & Co., 1856), 107.

⁸ Henry R. Price, *Hawkins County, Tennessee: A Pictorial History* (Virginia Beach: Donning, 1987), 162.

⁹ *Railroad Advocate* 1 (Rogersville, Tennessee), 4 July 1831.

¹⁰ An 1864 map "East Tennessee North of Loudon" prepared under the direction of Capt. O.M. Poe, Corps of Engineers & Chief Mil Div of the Mississippi, from data furnished by Capt. O.M. Poe and Professor J.M. Safford" shows a quarry (the only one indicated even though this map also included Knoxville and environs) near Mooresburg as well as the designation "Marble Hall or Rice's." Tennessee State Library and Archives.

¹¹ According to Safford, Rice bought Mitchell out of the business in 1844. (S.D. Mitchell was Mayor of Rogersville, 1840-1846).

(NHL, 11/11/1971) in Nashville.¹² In answer to a 1849 from the Washington National Monument Society for “memorial blocks” to be displayed as representative stones from every state at a monument that was to be constructed in Washington, D.C. to honor the nation’s first president, both Strickland and Rice sent sample stones. Strickland shipped his to Washington even before the Tennessee General Assembly’s resolution of 13 December 1849 empowering Governor William Trousdale to make an official selection to represent Tennessee. Trousdale initially delegated State Geologist Gerard Troost to make a selection “from the finest specimens of Marble in the State”.¹³ A letter from East Tennessee marble dealer Orville Rice, addressed to Troost, indicates that he was well aware of what would prove to be a major opportunity to promote his quarry.¹⁴ Perhaps Rice had met Troost during the latter’s visits to East Tennessee.¹⁵ After Troost’s death in 1850, however, the Governor appointed Daniel Graham, the former Tennessee Secretary of State and Comptroller of the Treasury, and more recently the Register of the United States Treasury under President Polk, to select the stone. Letters to Graham concerning the matter include one from marble dealer Orville Rice of Hawkins County.¹⁶ Rice’s dark pink Tennessee marble was chosen as the official Tennessee stone, and Tennessee Governor Trousdale approved payment to Rice for the fine engraving and gilding of a memorial quotation: “The Federal Union it Must be Preserved” (Andrew Jackson) and for the price of shipping to Baltimore, where the stone was transported by railroad to Washington. Rice traveled to Washington to see the display of stones from other states and reported that he “saw nothing like it (the block already sent) from any state”.¹⁷

Without direct railroad lines into Rogersville, Rice’s business remained dependent upon wagon and flatboat transportation. To get the monument stones up to Washington in 1850, he had floated them by flatboat down the Holston and Tennessee rivers to Chattanooga and railroded them to Charleston for transport up the east coast by schooner to Baltimore. Despite the acclaim that his Hawkins County marble had attracted, Orville Rice lost the bid to furnish interior marble for the new Tennessee State Capitol. Architect William Strickland’s initial proposal for the new state house specified the use of “the best cut and chiseled Limestone from the neighborhood of Nashville and Marble from East Tennessee”. Strickland’s official letter to the Capitol Building commissioners went into some detail, stating: “The columns of the Hall of Representatives and Senate Chamber to be variegated marble, as well as the decorative parts of the interior of the building”.¹⁸ Strickland, who was attempting to recruit experienced stonemasons to Nashville for his project, would have welcomed

¹² In a letter addressed to Professor Gerard Troost, dated 6 August 1850, Orville Rice mentioned having left a marble inkstand with Mr. Strickland and also some pieces with Mr. Bass [John M. Bass was a member of the Tennessee State Capitol Building Commission], which would, presumably, attest to the color and quality of marble in his Hawkins County quarries. He stated that he had already furnished a block of light-colored marble for the Washington National Monument and suggested sending an additional stone of the dark variegated type. Tennessee State Library and Archives, “Washington Monument” folder.

¹³ Robert H. White, *Messages of the Governors of Tennessee*, 4 (1845-1857) (Nashville: The Tennessee Historical Commission, 1957), 400.

¹⁴ Rice to Troost, 6 August 1850, Tennessee State Library and Archives, “Washington Monument” folder.

¹⁵ A Letter from Troost, addressed to an unnamed gentleman, which was printed in the *East Tennessean* on 2 April 1839 referred to several samples of marble that he had examined. The addressee might have been Rice, his partner S.D. Mitchell, or an influential citizen from Hawkins County.

¹⁶ Orville Rice to Daniel Graham, 5 December 1850, Tennessee State Library and Archives, “Washington Monument” folder.

¹⁷ Daniel Graham to William Trousdale, 21 December 1850, Tennessee State Library and Archives, Governor William Trousdale Papers; Orville Rice to Governor Trousdale, invoice dated 29 August 1850, approved 20 September 1851, Tennessee State Library and Archives, RG 61, Comptroller of the Treasury.

¹⁸ Tennessee State Library & Archives, Capitol Construction Records, proposal dated 20 May 1845.

an experienced marble mason to Nashville. Strickland, who had already designed a handsome new Presbyterian church in downtown Nashville, had other commissions that promised to keep him in the city for some years to come. In betting on an experienced and ambitious young stonemason, either the members of the Building Commission or the Architect of the Capitol himself may have hoped to create local competency for future projects or at the very least establish a profitable Middle Tennessee outlet for East Tennessee marble. The low bidder for the contract was James Sloan, a first-generation Irishman, newly arrived in Nashville from New York. Sloan planned to source the marble he needed from quarries in Knoxville. A week and a half after signing the contract for interior marble at the Tennessee State Capitol with commissioners John M. Bass, M. W. Brown, and Samuel D. Morgan, James Sloan was in Knoxville, apparently scouting for quarries.¹⁹ On 28 February 1852 he wrote:

Friend Bass, Dear Sir, According to agreement I write ... to let you know my luckness [sic] [or] sucksess [sic] in getting marble in this county ... there is a man here that has opened a quarry lately that looks very sound ... I am about to lease or buy two or three quarries in this county I think it will be profitable to me ... I am very thankful to you and the rest of the commissioners for your kindness to me in this matter. I look forward now for a better prospect in making something out of this marble.²⁰

When James Sloan went searching for source quarries in Knoxville in 1852, there were at least two areas where marble was already being extracted: at the Forks of the River (the meeting of the Holston and French Broad Rivers just east of the city) and several miles north of downtown, where Sloan may first have leased and then bought a quarry.²¹ The first public record of an incorporated marble business in Knox County: the Sligo Mining and Marble Company, dates to 1856.²² Sloan was involved in business transactions with Sligo, but there is no firm indication that he had been active in founding the company.

Railroads and the Marketing of East Tennessee Marble, 1850-1890

The author of an anonymous pamphlet published circa 1890 and entitled *Fifty Facts and a Few Figures Concerning Knoxville, Tennessee "The Marble City"*, asserted that marble had been quarried in Knoxville since 1842.²³ Yet without specific confirmation to verify such an early date for commercial quarrying in Knoxville, we should more likely date the beginnings of the industry in Knox County to about 1850.

Many enterprising Knoxville residents were no doubt aware of the potential value of the local marble veins. On an 1851 visit to Washington, D.C. in the company of the politically well-connected Oliver Perry Temple, Robert H. Armstrong, son of prominent Knoxville citizen Drury P. Armstrong, made a point of visiting the Washington National Monument, then under construction:

¹⁹ The contract was executed 17 February 1852. Tennessee State Library and Archives, Capitol Construction files.

²⁰ Tennessee State Library and Archives, Capitol Construction files, "Marble, Plastering, Pumps Information."

²¹ Thomas Rodgers to James Sloan, 11 January 1856, Knox County Archives. The description of the six acres Sloan purchased from Rodgers for \$600 includes a reference to a common boundary with Mrs. W.B. French (one of the heirs of James White) and the crossing of the East Tennessee & Virginia Railroad.

²² A 21 January 1856 deed transaction refers to the Sligo Mining and Marble Company as "a corporation created by an act of the General Assembly of Tennessee entitled An Act to Incorporate the Memphis Building and Loan Association Company and the Nashville Building Association passed February the 1st 1854," Knox County Archives.

²³ Knox County Public Library, McClung Historical Collection, Vertical File.

I visited the monument alone—and spent more than half a day about it...had attained the height of 90 feet ... made of huge blocks of whitish marble quarried on the Potomac—of a chrystalization [sic] larger and coarser than any I have ever seen. The work was going on well—a stationary engine drawing up men, materials and everything necessary. I was conducted to the blocks contributed by the several states formed of specimens of the native marble or rock of each. I was much interested in these blocks. There were also many contributed by Societies and corporations. All bore appropriate and patriotic mottoes and inscriptions, with devices &c &c. The largest block was one of granite from Massachusetts—but the prettiest I thought was that of the state of New York. It was black and beautifully sculptured in bas-relief. The blocks from Tennessee were beautiful, favorably comparing with any of the collection—but I know of marble in the state far more beautiful than any of the specimens in the whole number.²⁴

James Safford, in his first geological report (1855) referred to Col. John Williams, a prominent Knoxville citizen and former U.S. Senator who commanded a troop of Tennessee militia during the War of 1812, as having a “fine and valuable quarry of gray marble” a few miles east of Knoxville, which was part of a massive bed of marble 375 feet thick containing 95 feet of white marble near its base. Safford stated: “several marble factories in Knoxville have worked it”. He also mentions an exposed marble bluff on the French Broad, five miles north of Knoxville at Mecklenburg, the home of Dr. J.G.M. Ramsey.²⁵

In this same report, Safford also recorded the circumstances that called national attention to the marble of East Tennessee. Two years after he had lost the Tennessee Capitol contract, Hawkins County’s Orville Rice had competition in his own backyard from William Dougherty. By 1854, Dougherty, the construction superintendent for the Washington National Monument, was corresponding with Hawkins County landowner Andrew Galbraith about a quarry on the Galbraith land.²⁶ Safford’s 1855 report mentioned that a “government agent” had come to Tennessee to inspect the marble for the purpose of obtaining some of it for the interiors of the new wings of the United States Capitol Building. Capitol Architect Thomas U. Walter, who had inspected the “memorial stones” sent by various states to the Washington National Monument, may have remarked upon Hawkins County, Tennessee’s marble resources. He certainly knew construction superintendent William Dougherty, and the latter might have arranged a visit with introductions furnished to him by Orville Rice, whom he would have met in 1850 when Rice traveled to Washington, D.C. to see the sample stones sent by other states.

By 1855, substantial amounts of marble were being shipped to Washington under Dougherty’s auspices.²⁷ From one or both of the Rice or Galbraith quarries, Dougherty, and a Baltimore marble

²⁴ R.H. Armstrong, “Private Journal and Jottings Down In and Out of Prairiedom: Nov. 8, 1850-Sept. 15, 1851,” Knox County Public Library, McClung Historical Collection, MS 917.63.

²⁵ James M. Safford, *A Geological Reconnaissance of the State of Tennessee, being the author’s first biennial report presented to the General Assembly of Tennessee, December 1855* (Nashville: G.C. Torbett & Co., 1856), 109.

²⁶ A hand-carried letter from William Dougherty, Washington, D.C., to Mr. Andrew Galbraith of Hawkins County introduced Mr. Galbraith to the bearer, a Mr. William Canning, who “comes out to take charge of the Quarry in place of Mr. Roberts.” Dated 15 June 1854, this letter suggests that there was an already-established relationship (regarding a quarry) between Dougherty and Galbraith. Letter courtesy of Tennessee Books and Autographs, George E. Webb, Jr., Rogersville, Tennessee.

²⁷ “As the result of these circumstances, an extensive quarry, affording an excellent material, has been opened at a point about nine miles southwest of Rogersville, where the Holston River intersects the marble range ... many thousand cubic

man named Hugh Sisson, obtained the marble used for many interior features, including three staircases and the walls of the handsome Senate Retiring (or "Marble") Room, in the United States Capitol Building Extensions.²⁸

Safford's 1855 report had noted that some or all of the interior marble needed for the United States Capitol Building extensions was being obtained from a quarry nine miles south of Rogersville and described the specifics of transporting it. Moving such an extensive load of marble at that time would have involved sending it by flatboat down the Holston River, then shipping it down the Tennessee River to rail access at Loudon or Chattanooga, loading it on train cars for Augusta, Savannah, or Charleston, then forwarding it by schooner to the port of Baltimore, and then by train from Baltimore to Washington. Dougherty wrote of the difficulty he had in sending the shipment: "I had them taken 200 miles further down the river than the usual landing, and sent the greater part of the force at the quarry to unload them on the beach and haul them to the Rail Road which cost me over four hundred dollars more than it would otherwise have done. Thirteen of the columns are in this lot, the other one is on its way to Charleston..."²⁹

Even though Rice's Rogersville Marble Company was capable of providing fine and decorative finishes, as was evidenced by the Hawkins County memorial stones for the Washington National Monument, the marble for the United States Capitol was shipped in block form to be cut by marble masons on site. Yet, writing to the United States Capitol's construction engineer, Captain Montgomery Meigs, in March 1858, Dougherty spoke of the marble columns he was sending as if they were identifiable as such. While they might have deemed it too risky to send the marble for the Capitol in finished form, it is likely that he had it as least roughly dressed in order to prevent having to ship excess weight.

Whether Dougherty's operation included at least some type of marble mill or not, Orville Rice's Rogersville Marble Company had been operating one since at least 1850. The United States Census of Manufactures for the year 1850 contained one reference to marble in Tennessee: O. Rice, Hawkins County, "marble factory". Rice engaged in quarrying stone and employing six men to produce monuments and tombstones using water-powered machinery.³⁰

While Rice may have opened the way for Dougherty to develop a market for Tennessee marble in Washington, the ventures of both men were stymied by the lack of direct rail connection north through the valley of Virginia to the eastern seaboard. The construction of the East Tennessee & Georgia (ET&G) railroad northward from the southern border of Tennessee to Knoxville made it possible to transfer from boat to rail much closer to the source. The first railroad bridge across the Tennessee River had been completed at Loudon in 1852. These newly-available railroad lines greatly facilitated the early growth of the Knoxville marble industry. By 1855, the ET&G was running along the north side of the river from Loudon to Knoxville with trains entering the city from the southwest. Construction of the East Tennessee & Virginia (ET&V) Railroad, between Knoxville and Bristol, lagged three years behind, precluding such convenient access to long distance rail shipping for the

feet of marble have already been sent off. It is taken, for a part of its route, down the river, and then by railroad to Charleston or Savannah, where it is shipped for Washington City." Safford, *A Geological Reconnaissance*, 108.

²⁸ Allen, *A History of the United States Capitol*, 238, 303.

²⁹ Dougherty to Meigs, 31 March 1858, Architect of the Capitol, Marble Contracts.

³⁰ U.S. Bureau of the Census, Washington, D.C. *Seventh Census: Manufactures* (1850), 127.

quarry owners in Hawkins County. While the planned lines were being built out from the Knoxville and Bristol simultaneously, they did not finally meet at Midway, in Greene County, until 1858.

Even though the ET&V Railroad would eventually pass through Whitesburg, just five miles south of the main highway connecting Rogersville to the marble areas near Mooresburg, the transfer of marble from quarry to rail would continue to involve the heavy labor and expense of mule teams, wagons, and flatboats. Whitesburg is located on the opposite side of the Holston River from Rogersville. A railroad spur from Bull's Gap to Mooresburg/Rogersville was finally constructed circa 1870 under the aegis of a separate corporate body. But by then the Hawkins County marble industry had lost its early advantage in the industry.

Thus, the presence of a major north-south railroad line operating into and out of Knoxville by the mid-1850s determined the course of the marble industry in Tennessee by ensuring Knoxville's growth at a critical moment of the industry's development. The opening of the ET&G Railroad, between Knoxville and the Georgia state line, meant that marble from the Knoxville area could be transported overland to the Atlantic ports of Charleston and Savannah.

The small town of Concord, strategically located on the ET&G railroad line just west of Knoxville, and adjacent to the river, developed quickly into a center of marble production and transport after the railroad was completed. By the 1870s, Concord boasted a two-story brick Masonic Lodge and several substantial brick businesses and homes. By 1883, there were four marble businesses and a marble mill active in Concord.³¹ Two families of stonemasons relocated from the Rogersville area to Concord and set up successful stone carving business. Hal Glaspey Winfrey, whose father, Holmes Warren Winfrey, was a millwright, moved with his wife Nannie Moore Fawbush and several brothers to Concord in 1886. Hal was there to "take advantage of work in one of the four new marble quarries", while his brother, the Reverend William Winfrey, became the first minister at Concord Baptist Church.³² James Farmer Woods, Jr., a prominent quarry operator in Concord, was extracting marble from quarries located on Callaway Ridge by the 1890s and operating a marble saw mill circa 1900. J.F. Woods & Company, Manufacturers and Dealers, advertised their expertise in monumental work and fine carving.³³ Woods and a man named William Scales obtained a patent on a stone-channeling machine in 1891.³⁴

By 1852, James Sloan had secured access to a quarry in Knoxville very near to the ET&G Railroad, which would make a connection with the soon-to-be completed Nashville & Chattanooga (N&C) Railroad. The chairman of the Capitol Building Commission, John Bass, with whom Sloan had been corresponding, was a banker, and committee member Samuel Dold Morgan was one of the major antebellum industrialists in Nashville. Both were also investors in the N&C, which would be the first railroad line completed in Tennessee in 1854.³⁵ Geologist Safford reported in 1855:

³¹ Concord Village Historic District nomination (NRHP, 10/22/1987).

³² In 1918, Winfrey and several of his sons quit quarry work and started Winfrey Brothers, Inc., a stone-setting business that achieved a national reputation. Winfrey Brothers, Inc. became the stone-setting division of Georgia Marble Company in 1963. Personal correspondence, Andrew J. Winfrey, grandson of Hal Glaspey Winfrey, 2010.

³³ David Creekmore, photographs, artifacts, and label copy, Farragut Museum exhibition, Farragut (TN) City Hall. J.F. Woods, Jr. was Creekmore's grandfather.

³⁴ *Stone: An Illustrated Magazine*, v.4: 25.

³⁵ R.S. Cotterill, "Southern Railroads and Western Trade, 1840-1850." *The Mississippi Valley Historical Review*, III, no. 4 (1917), 427-431, 434, 436.

The production in Knox County has been considerable, and will rapidly increase. In 1852, Mr. James Sloan opened a quarry in a range of variegated marble, which, in its south-westward course, runs but little west, or north-west, of Knoxville. This range is many miles in length, affords an unlimited amount of valuable marble, and is intersected by the East Tennessee and Virginia Railroad, and we believe by the Holston. Mr. Sloan's quarry is admirably located on a low ridge, being not quite two miles north of Knoxville, and but a few hundred yards from the line of the railroad. From this point all of the variegated marble in our State Capitol has been derived.³⁶

Knox County deeds from 1855 and 1856 reveal that Philadelphian Montroville W. Dickeson, a medical doctor, had purchased a parcel of land on which there was a marble quarry. He had also leased another with the promise of purchase if marble was found. Dickeson published a pamphlet, after having been in residence on the properties for four months, stating that he had observed an "extensive deposit of variegated and compact marble, belonging to the company ... situated, both in a North-east and South-westerly direction from the city of Knoxville. The first-named property ... formerly owned by Col. James Welker, lies two and a half miles N.E. from the city".³⁷ Dickeson took pains to make clear that the marble he was describing was durable and desirable architectural and sculptural stone. He also reported that one of the properties was served by the ET&V Railroad and a second on the south side of the river, one and a half miles from Knoxville, was on the proposed route of the proposed railroad between Knoxville and Charleston.³⁸

As the roughly concurrent rise of the Tennessee Coal, Iron and Railroad Company demonstrates, forward-thinking Tennesseans were investing capital in railroads with the intention of tying those to the extraction and production of mineral resources. State Geologist Gerard Troost's reports of the Cumberland region's natural resources were followed with interest by speculators in mining and minerals.³⁹ Nashville leaders John Overton and A.O. Nicholson, both prominently associated with the campaign for the N&C Railroad, used Troost's 1845 report to the General Assembly to justify the expediency of a tunnel through the coal-rich mountains.⁴⁰ An 1854 promotional article from the *Knoxville Register* also exhorted readers to invest in East Tennessee coal and iron, claiming that rails will soon be "radiating" from Knoxville in all directions, and adding that profits await those willing to develop existing marble, zinc, and lead operations.⁴¹ Under the leadership of Vernon K. Stevenson, the N&C Railroad, which linked Tennessee's two major rivers, the Tennessee and the Cumberland,

³⁶ Safford, *A Geological Reconnoissance*, 108.

³⁷ Montroville W. Dickeson, *Report of a Geological Survey and Examination Upon the Lands Owned by the Dickeson Marble and Zinc Mining and Manufacturing Company of Tennessee* (Philadelphia: J. Hufty, 1856), 1.

³⁸ According to Blount County historian Inez Burns, Blount County purchased 120,000 shares in the Knoxville and Charleston Railroad in 1854. Its directors, including Knoxvilleans William G. Swann and John J. Craig, met in Maryville on 18 July 1856. Inez E. Burns, *History of Blount County, TN, 1795-1955* (Nashville: Tennessee Historical Commission, 1957, rev. 1988), 235.

³⁹ Wilma Dunaway, *The First American Frontier: Transition to Capitalism in Southern Appalachia, 1700-1860*. Chapel Hill: University of North Carolina Press, 1996, 349n57; Justin Fuller, "History of the Tennessee Coal, Iron, & Railroad Company, 1852-1907." (Ph.D. diss., University of North Carolina, 1966), 4.

⁴⁰ Troost's report [House Journal appendix 1845-46, pp. 65-75] was critical to Overton and Nicholson's ability to spur interest in a route extending through the coal resources of the Cumberland mountains. S.J. Folmsbee, "The Origins of the Nashville & Chattanooga Railroad," *The East Tennessee Historical Society Publications* 6 (1934), 86.

⁴¹ Dunaway, 253.

was completed in 1854, two years after the founding of the Tennessee Coal, Iron & Railroad Company. The first through train from Nashville arrived in Chattanooga on 11 February 1854.⁴²

On the eve of the Civil War, Tennessee was rapidly working to connect its markets to the national transportation grid. In addition to making railroad connections south and east in partnership with the states of Alabama, Georgia, and South Carolina, Tennesseans were also looking north to the Ohio River. Construction on the Louisville & Nashville Railroad was proceeding toward completion by 1859, and the Knoxville & Kentucky Railroad, designed to connect upper East Tennessee coalfields to the Ohio River, had started laying rails northward from Knoxville in 1855.

The availability of railroad connections in Knoxville as early as 1855 gave the area marble industry a head start over its counterpart in the more isolated Hawkins County. The ease of access from river to rail meant that Knoxville marble quarries upstream could float blocks on flatboats downstream to Concord for loading onto rail cars going south, or send them into Knoxville by wagon for transfer to the ET&V Railroad going north and east. Marble mills and yards soon appeared either along the railroad lines and/or next to First and Second Creeks leading into the river just south of downtown Knoxville. Another factor in Knoxville's favor may have been the inflated value of the reddish-brown Hawkins County stone—the primary focus of marble work there since the late 1830s and 1840s, which had been sold almost exclusively for interior use.⁴³ Those desirous of using Tennessee marble as dimensional (exterior) building stone may have looked south to Knoxville where there was a greater variety of marble available and competition among suppliers may have helped keep prices down. Not only was there more than one belt of marble around Knoxville, the pink and gray marbles occurred in more easily accessible locations.⁴⁴

East Tennessee's rail lines and other industrial infrastructure suffered during the Civil War; the area had been a crossroads of competing armies who used whatever was at their disposal, particularly anything within or near railroad yards or waterways, as needed for transportation or equipping of soldiers. But the post-Civil War growth of the East Tennessee marble industry and its proliferation in the Knoxville area by the 1880s suggests that the network of rail lines emanating from that city was quickly restored. The expansion of the national railroad network would in large measure chart the course of usage for Tennessee marble.

There are identified resources related to the early transportation network and the industry. Quarry Hollow Road, Blount County, is a former tramline bed serving Marmor Quarry. The John J. Craig Company built a spur to the mainline in 1903 and re-purposed a locomotive (Shay 2147, formerly used by lumber companies) to haul marble. This engine is now on display at the Little River Railroad Museum in Townsend.

Melinda Ferry Road, Hawkins County, SR 344, south of Highway 11W, follows the old roadbed between Rogersville and Whitesburg, crossing the Holston River at the site of the ferry. Local tradition holds that marble was hauled overland to the railroad at Whitesburg Station. A man named Melinda worked as a teamster for marble man Orville Rice, whose Marble Hall property was located not far from the outlet of Melinda Ferry Road.

⁴²Zella W. Armstrong, *A History of Hamilton County and Chattanooga, TN* (1940; repr., Johnson City: Overmountain Press, 1993), 119.

⁴³*Goodspeed's*, 269.

⁴⁴Gordon, 1911, 13, 15.

In the 1870s, railroad men like Thomas A. Scott, of the Pennsylvania Railroad, began to buy some of the failing southern lines and consolidate existing roads into the kind of powerful network needed to revive the Southern economy. The business acumen of his secretary, Andrew Carnegie, proved instrumental in creating a profitable system for freight shipments.⁴⁵ With the economic crisis of 1873, a number of lines did not survive. Even Scott's powerful syndicate, the Southern Railway Security Company, had to trim its holdings. For a brief period, it had helped sustain the newly integrated East Tennessee & Georgia (ET & G) and East Tennessee & Virginia (ETV&G) Railroad and the mainstay Richmond & Danville Railroads, as well as feeder lines serving North Carolina, and Georgia as far south as Atlanta.

As Knoxville's reputation as a marble center began to grow, one native son seems not to have noticed. In a memoir written soon after the Civil War, Francis Alexander Ramsey's son, the historian James Gettys McReady (J.G.M.) Ramsey, described the house he grew up in as having been constructed of pink granite with blue limestone corners, arches, and chimney.⁴⁶ Perhaps he was unfamiliar with the geological reports of Troost and Safford, neither of whom identified granite anywhere in Tennessee. Nonetheless, it seems curious that Ramsey mistook the dark pink marble, which was quarried close by his boyhood home on Thorngrove Pike, near the Forks of the River, for granite.

One of the quarries not far from the Lebanon-in-the-Fork Presbyterian Church (not extant) that J.G.M. Ramsey's father, Francis Alexander Ramsey, founded in the Forks of the River district would soon be chosen as the source of marble for the new Knoxville Custom House. This substantial marble edifice, erected 1871-74, was the first federal building project to come to the state, and one that would open the way for the use of East Tennessee marble in future federal projects. Architect Alfred B. Mullett, working for the Treasury division, designed the new building to function as both customs house and post office, and also provide office space for other federal agents in East Tennessee.

Several of the men who worked on the Custom House project would continue in the marble business. Paymaster George W. Ross, in partnership with William Patrick, James Patrick, and J.H. Holman, formed the Knoxville Marble Company in 1873. Ross and Patrick arranged to lease a quarry adjacent to the Lebanon-in-the-Fork Presbyterian Church (not extant) to provide marble for the St. Louis Custom House, designed by the same architect, which was erected soon after the Knoxville building. In *Introduction to the Resources of Tennessee* (1874), Joseph Buckner Killebrew, Tennessee's Commissioner of Agriculture, Statistics and Mines, 1871-81, and State Geologist James Safford reported that the quarry at the Forks of the River, which had originally been opened for the purpose of supplying the Custom House in Knoxville in 1871, was now being run by W. Patrick & Company. Employing thirty people, they were using the "most modern methods" for sawing slabs in the quarry using steam power to run two engines: one for sawing and one for derrick work. This operation was close enough to the riverbank that slabs were easily transferred from the mill to flatboats for the four-mile trip down the river to the railroad for shipping.⁴⁷

⁴⁵ Historian Kevin Hillstrom attributes the use of a cost-accounting system for railroads to Albert Fink of the Louisville & Nashville, and proposes that Carnegie's innovation was to adapt it to the steel industry. Hillstrom, 48.

⁴⁶ William Hesseltine, the editor of Ramsey's autobiography, published in 1954, believed it was completed circa 1870. *J.G.M. Ramsey, Autobiography and Letters*, William Hesseltine, ed. (Knoxville: University of Tennessee Press for Tennessee Historical Society, 2002), xxxvi; *Ramsey, Autobiography and Letters*, 9.

⁴⁷ J.B. Killebrew and J.M. Safford, *Introduction to the Resources of Tennessee* (Nashville: Tavel, Eastman & Howell, 1874), 254-255.

Harmon Kreis, a Swiss Immigrant and young Union veteran, who worked as a timekeeper for Ross and Patrick at the Knoxville Marble Company later went into the quarry business for himself. With partners T.S. Godfrey and W.R. Monday, he developed several quarries in the same vicinity, including Gray Knox, American Marble, and Gray Eagle. With Thomas Deane, he was a founding officer of the Appalachian Marble Company.⁴⁸

Two of George Ross's sons went into the marble business. John M. Ross became President of the Knoxville Marble Company upon his father's death. After the Knoxville Marble Company sold its holdings in the Forks of the River area to Evans Marble Company, John M. Ross acquired marble holdings for the company in South Knoxville, almost directly across the French Broad from the Forks area, which he parlayed into several successful businesses, including a mill and quarry operation in the vicinity of Island Home, which he sold to the Republic Marble Company, and a quarry that he continued to work near the site of his first quarry. After the sale of Ross's first quarry property to the Republic Marble Company, which had quarry operations in Concord, and in Union County near Luttrell, the company styled itself the Ross and Republic Marble Company. The quarry they operated in the vicinity of Island Home soon became known as the Mead Quarry, after company president, Frank S. Mead. The nearby quarry belonging to John Ross was commonly referred to as the Ross Quarry.

A comparison of manufacturing census data for Knox and Hawkins counties in 1850 and 1880 reveals the impressive growth of the East Tennessee marble industry after the Civil War. The industry went from one to at least twelve companies in three short decades. All four quarries in Hawkins County named Baltimore as their principal market. Those in the Fourth District (Mooresburg) indicated that marble was shipped by wagon and rail, while those in the Third District shipped directly by rail. Yet, the Hawkins County marble companies, still dependent upon river to rail transport for the first part of any marble shipment, were destined to fall farther behind as the industry began to coalesce in the Knoxville area. An anonymous "Account Book: 1886-87" from Rogersville, Tennessee documented hauling by Frank Netherland, an African American entrepreneur who is known to have specialized in heavy loads using teams of mules.⁴⁹ According to former Hawkins County Historian Henry Price, two other African Americans, John Wells and Reeves Kyle, along with Sam Goodman, used teams of from eight to thirty-two mules or oxen to haul marble to the railroad. The account book also detailed the shipment of blocks of marble to customers in Knoxville, Baltimore, Boston, Buffalo, New York, Milwaukee, Chicago, St. Louis, and Lexington. The most frequent customer in the ledger book is W.H. Evans & Son for shipments both to Knoxville and Baltimore.⁵⁰

The 1880 *U.S. Census of Manufactures* in Knox County lists eight quarries in operation in five separate districts.⁵¹ Their principal markets were Memphis, New Orleans, Cincinnati, United States East & West, New York, Philadelphia, and Knoxville. Transportation varied from railroad, to railroad and water, to wagon (for those who sold locally). The largest firm, Currey & Boone, which gave its

⁴⁸ Max Kreis, "Kreis Family History," unpublished manuscript, personal interview April 2013.

⁴⁹ According to former County Historian Henry Price, two other African Americans, John Wells and Reeves Kyle, along with Sam Goodman, used teams of from eight to thirty-two mules or oxen to haul marble to the railroad. Price, *Hawkins County, Tennessee: A Pictorial History*, 164.

⁵⁰ University of Tennessee, Special Collections, "Account Book, 1886-1887," MS 1404.

⁵¹ The names of the quarry owners and dates of founding were as follows: Brown & Clark (1879); Johnson & Bro (1879); Edington & Co (1880); Currey & Boone (1879); R.H. Armstrong & Co (1880); East Tennessee Marble Co (1879); R.E. Edington & Bro (1870); Robt & John Edington (1872).

principal market as “United States East & West”, reported invested capital of \$20,000, employed sixty workers, had four machines, and used waterpower from the Holston River. R. H. Armstrong & Company, with its principal market as New York, employed nine workers, had three machines, and used waterpower from the Tennessee River. Capitalization ranged from \$750 to \$5,000 and value of output from \$400 to \$12,000 annually. Two of the very earliest were firms including the name Edington. Two firms employed fifteen workers and shipped marble by wagon to locations in Knox County. The third Edington firm, founded in 1880, was shipping marble to Cincinnati via rail. This firm employed twelve workers, and had one machine powered by the waters of the Tennessee River. By the turn of the century, the Southern had a powerful competitor for marble cargo shipping out of the Knoxville area: the Louisville and Nashville (L&N) Railroad.⁵²

In 1887, *Goodspeed’s History of Tennessee* described the development of marble quarries near Knoxville as “one of the most promising fields of industrial activity in East Tennessee”. The authors included a more extensive list of quarries in Knox and Hawkins Counties than those captured in census records, as well as a few in Hamblen County and Bradley County (near the Hiwassee). They found four marble mills in operation in Knoxville in 1884: Knoxville Marble Company, Morgan & Williams, Beach & Co., and Crescent Marble Company. Within a year or so, Evans Marble Company would also locate in Knoxville, and Great Southern, and its successor, Tennessee Producers Marble, would all be running large mills in Knox County.⁵³ In the 1880s, most of the marble freight leaving East Tennessee appears to have been loaded from river to rail at Concord, where at least ten companies were in operation by 1885. Some of the Knoxville companies near the Forks of the River were also floating marble downriver for shipment.⁵⁴ Added together, this suggests that there were between twenty-five and thirty marble businesses operating in Tennessee by the mid-1880s.

While a large percentage of these businesses had opened since 1880, there may have been considerable turnover in company ownership, for few names in the 1884 data are congruent with the names on the 1880 *U.S. Census: Manufactures*. However, the information for *Goodspeed’s* volume was collected for the purpose of promoting local business, so names of individuals involved informally in the industry through ownership or leases on private lands are not included in property deeds or articles of incorporation. Research into public records, such as leases, power of attorney trust deeds and court cases, reveal interconnections between incorporated companies and their counterparts in the region and in other sections of the country. The number employed in all marble businesses of East Tennessee was estimated at two thousand by the authors of *Goodspeed’s*. The Knox County marble businesses listed their invested capital as \$250,000.

In 1887, a visiting party from *Harper’s Weekly* reported thriving industries in many sectors, citing the presence of “Northern and Western men, attracted by the manifold advantages offered in Knoxville, [who] had established themselves here soon after the war [and] in many cases formed partnerships with Southern men”. Harper’s writer Kirk Monroe devoted two long paragraphs (out of eleven) to a

⁵² The Baltimore-based Evans marble company, a leader in the field, which had located a satellite operation in Hawkins County by 1880, soon opened a mill in Knox County. An 1888 map of Knoxville shows that they were shipping freight almost directly northward out of Knoxville on the Knoxville & Ohio Railroad, which later became part of the L&N. Norris Wellge & Co. *Knoxville, Tennessee, County Seat of Knox County* (Milwaukee: Beck and Pauli Lithography, 1888).

⁵³ *Goodspeed’s*, 267.

⁵⁴ *Goodspeeds’* noted the following Concord marble firms circa 1884, when information for that publication was being collected: Godfrey Brown & Company, Red Triangle Quarry, Juniata Marble Company, Cedar Bluff Marble Manufacturing & Railway Company, Great Bend Marble Company, Kinkaid & Company.

description of the wealth of marble to be found and opined that this promising sector could expand exponentially as the marble began to be processed locally instead of shipped north to be worked.⁵⁵

East Tennessee Marble and Tennessee's Industrial Era, 1890-1940

The post-Civil War federal building boom, an enormous outlay of government largesse, brought new customs houses, post offices, and federal courthouses to many cities across the country and proved a boon to the building trades. The erection of these massive, usually stone, buildings provided jobs and construction and materials contracts. Historian Steve Cotham believes there was a reason that the first of these in Tennessee went to Knoxville: the massive pink Tennessee marble Custom House, designed by Treasury Department Architect Alfred B. Mullett for the corner of Clinch and Market Streets in downtown Knoxville, was intended as a reward to a loyal city and section of the state.⁵⁶ A decade or more elapsed before similar multi-purpose custom house/court house/post office buildings, designed by Mullett's successor, William Appleton Potter, were erected in Nashville (1882) and Memphis (1885).

The erection of these multi-purpose government buildings provided a stamp of government power in architectural form. A mandate for permanent and impressive-looking construction in decentralized locations also led to the use of local materials, which marked these buildings as belonging to place. A. B. Mullett said of the marble he had used in Knoxville, "It is, in my opinion, unsurpassed in beauty and desirability by any marble now in use in this country."⁵⁷

The rise of corporate wealth brought increased demand for materials for manufacturing and building, as well as business opportunities, to the post-war South. The large industrialists who orchestrated much of the country's growth during this period exhibited their status and power first by building luxurious residences, and then by establishing and endowing public institutions such as libraries and museums. The creation of these new public entities arose hand in hand with the development of rail transportation, the rise of engineering as a profession, and the exploration of new stone extraction and production technologies. All of these contributed to the rebirth of classical style in architecture made popular by the "American Renaissance" buildings at the 1893 World's Columbian Exposition. Many of the important public buildings constructed from the 1890s to the 1920s along the new "metropolitan corridor" would call for stone or marble structures that would be similarly ambitious in scale and appearance.

As the style of choice for civic architecture in the coming decades, Beaux Arts architecture, with its Classical and Renaissance Revival-style buildings, would have a marked impact on the marble industry. The producers of the highest-valued marble in the United States for 1889 were: Vermont, Tennessee, and New York, all of which had displays at the World's Columbian Exposition, according to the official catalogue published by W.B. Conkey & Company, 1893. Georgia, whose enormous beds of grey-veined white marble had only begun to be worked on a large-scale basis after the 1883

⁵⁵ Kirk Monroe, "The Industrial South: Knoxville, Tennessee," *Harper's Weekly* 7 (May 1887, XXXI, no. 1585), 330.

⁵⁶ Steve Cotham is Director, McClung Historical Collection, Knox County Public Library, and Historian, East Tennessee Historical Society.

⁵⁷ William Patrick presented this letter from Mullett to War Department Secretary W.W. Belknap in his unsuccessful attempt to secure a contract for tombstones for the federal cemeteries. *St. Louis Globe Democrat* 7 March 1876.

arrival of the Marietta & North Georgia Railroad in the town of Tate, did not exhibit at the Exposition, nor did Alabama. The former would soon become one of the top sources of marble for public buildings across the United States, the latter as well, but on a much smaller scale. By 1924, Georgia would rank third in American production, behind first-ranked Tennessee, and second-ranked Vermont.⁵⁸

The professionalization of the fields of geology and engineering also contributed to the rising interest in Tennessee marble. The Arkansas State Geologist reported having seen variegated marbles from Blount County, where quarries were just being opened, on exhibition in Knoxville in 1890.⁵⁹ George P. Merrill, Curator of Geology at the Smithsonian Institution, provided an historical overview of the industry, touted the assets in and around Knoxville, particularly in the Forks of the River area, and also mentioned the new Blount County quarries located on the Marietta & North Georgia Railroad line.⁶⁰

University of Tennessee Engineering Professor Charles Ferris reported on extensive tests of “Tennessee Marble as a Building Stone” that had been conducted at the university. Ferris also noted that the flawless, close-grained pink and gray marbles from around Knoxville were beginning to compete with granite as a building stone, adding: “The Blackstone Memorial Library, at Branford, Connecticut is now being built with a four inch veneer of pink marble. As Branford is situated in the centre of the granite region of Connecticut, this speaks volumes in favor of Tennessee marble.” The varied colors and types of Tennessee marble had already insured its popularity for interior use. But it would be the durability of the pink and gray marbles, their high crushing strength, absorption resistance, and resistance to high temperatures, all noted by Ferris, that also made them suitable for flooring and guaranteed the widespread dispersion of Tennessee marble across the country over the next several decades.⁶¹

The 1895 *Knoxville Folio*, part of the *National Atlas*, the USGS mapping project that created the first fifteen-minute quadrangle maps of United States, included accompanying text by United States Geological Service (USGS) geologist Arthur Keith.⁶² Keith’s first heading under “Mineral Resources” is “Marble”, in which he stated: “Marbles are found in great quantity in the Chickamauga limestone in nearly all of its occurrences.” The accompanying map (*see Figure, below*) showed the designation “Chickamauga limestone,” in light pink with the symbol *Sc*. Occurring within it and colored a distinctive dark maroon, was “Holston Marble,” labeled *Oh*. This was the first time either designation had been used.

⁵⁸ Dan Hill Latham, Jr. “Georgia Marble: A Study of its Production and Architectural Use Before World War II,” M.A. thesis, University of Georgia, 1999, 192-195.

⁵⁹ John C. Branner, “Annual Report of 1890,” IV (Little Rock: Office of the Geological Survey of Arkansas, 1892).

⁶⁰ George P. Merrill, “The Marble Region of Knoxville, Tenn.,” *Stone: Devoted to the Quarrying and Cutting of Stone for Architectural Uses*, vol. 5, no. 6 (Chicago: D.H. Ranck & Co., 1892)

⁶¹ Charles Ferris, *University of Tennessee Scientific Magazine*, I (Knoxville: The University of Tennessee, 1894), 19, 20, 27-28.

⁶² Texas A & M University’s digital map portal contains a complete set of USGS folios <http://repository.tamu.edu/handle/1969.1/3016> [accessed 24 August 2010].

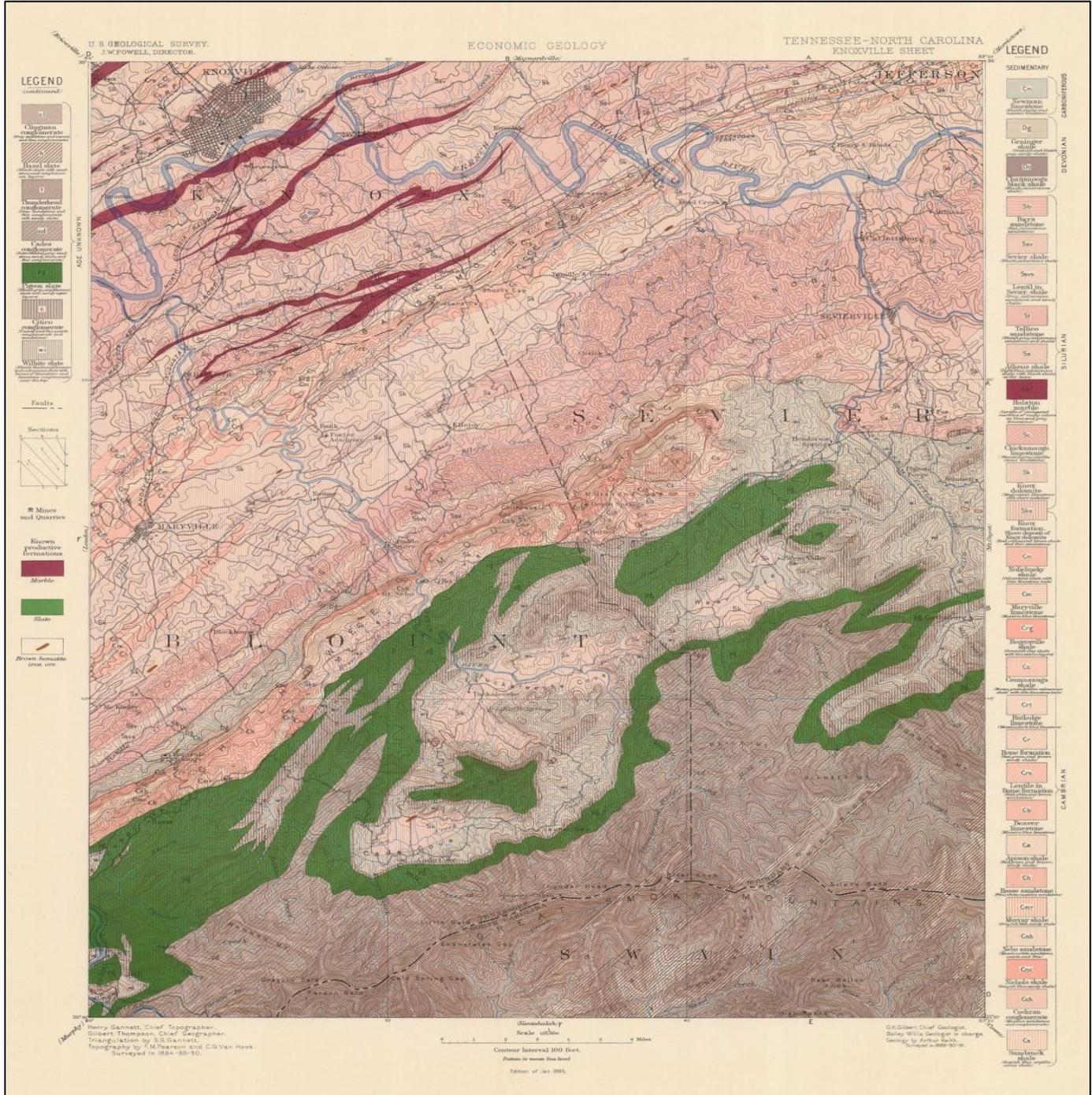


Figure 1. U.S. Geological Survey, J.W. Powell, Director; Bailey Willis, geologist-in-charge; geology by Arthur Keith (surveyed 1889, 1890, 1891), *Economic Geology: Tennessee-North Carolina, Knoxville Sheet*, 1895. On this map, Holston Marble is symbolized “Oh” and represented by dark maroon shading.

Keith's designation is still in use, as shown here in a close-up detail of a Tennessee Division of Geology map of the USGS Knoxville quadrangle (see Figure 2, below), on which the symbol Oh, representing what is now called the "Holston Formation," can be seen indicated by hatched pink areas extending from the confluence of the Holston and French Broad rivers diagonally to the southwest into Blount County as far as Rockford and beyond.

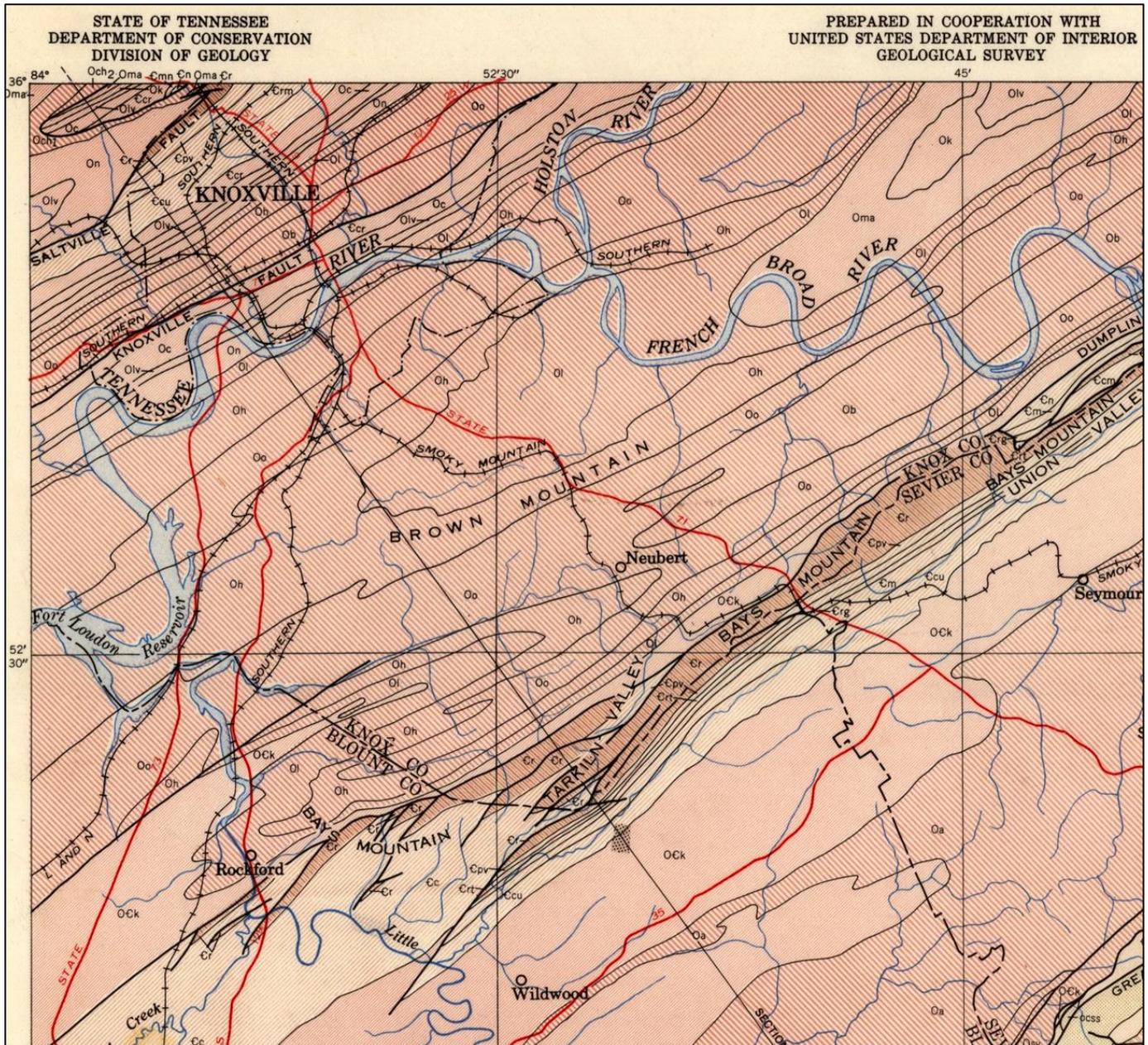


Figure 2. Department of Conservation, Division of Geology, State of Tennessee, detail p. 9, Knoxville quadrangle.

Accurate geological maps such as these allowed investors to pinpoint likely areas of success for new ventures, encouraging the industry's growth by the turn of the twentieth century. Chicago being the terminus of at least eleven railroad lines by the time of the World's Columbian Exposition, one natural extension of the fair's influence was a proliferation of Beaux-Arts-influenced railroad terminals across the country. These stations marked large city termini and appeared at important nodes on the cross-country rail lines. They quickly became important public showcases for stone construction and many of their decorative interiors featured marble. Proclaiming the prosperity and status of railroad corporations, they also expanded opportunities architects, who were able to see their visions fulfilled on a massive scale and with massive budgets. Rail transportation provided access to previously unavailable building materials and many of the terminals themselves became destination locations for public enjoyment and edification, their scale and richness a source of local pride.

The final decades of the nineteenth century began a period of tremendous growth for the Tennessee marble industry. The 1894 consolidation of railroads to form more efficient transportation networks also allowed competition among routes, further encouraging the market for Tennessee marble. While the Southern Railway ultimately took over the Knoxville & Charleston line, which had been completed to Maryville by 1868 and combined with the Knoxville & Augusta Railroad in 1881, it was the Southern that would assure the L&N a stake in the Tennessee marble industry. Their tracks crossed the downtown bridge across the Tennessee River, passing through Louisville, Tennessee, near a line of rich Blount County quarries just beginning to be opened in the late 1880s, connecting to the Marietta and North Georgia Railroad in 1890, which also provided a direct and much faster link to another major market center in Atlanta. The L&N would also make inroads into Knoxville from the north, building an impressive stone passenger terminal in 1904 to announce its challenge to the Southern Railway.

John J. Craig, a mercantile man and a banker prior to the Civil War who had left the city during the war years, was actively engaged in buying and leasing quarries by the late 1870s, and was soon one of the leading marble men in both Knox and Blount counties. The quarry he opened east of the city in 1878 had two additional partners: W.B. McMullen and J.M. Edington. The John J. Craig Company, Quarries and Dealers in marble, is listed in the Knoxville City Directory for 1882. In addition, Craig proved himself an able businessman by arranging several combines or consortiums of Knoxville marble resources in order to develop the best possible market share. In 1885, he was a founding partner in Great Southern Marble, enlisting men whose names appear in other sources as already associated with the marble industry: T.S. Godfrey, R.H. Brown, T.W. Keller, J. Oelling Brown. According to the *Standard History of Knoxville*, published in 1900, Tennessee Producers Marble Company, which was reorganized as a stock company in 1894 under the leadership of Craig's former general manager, W.B. McMullen, apparently built a large mill to serve quarries located in Knox, Blount, and Hawkins Counties.⁶³ This company would also serve as marketing and sales agent for Great Southern Marble and W.H. Evans, successor to the Evans & Son Company of Baltimore, which had located first in Hawkins County and later moved into the Knoxville market. The L&N became the primary carrier for the operations of the John J. Craig Company and affiliates in Blount County. He built the first of several spur lines to the railroad in 1903, which allowed his operations to haul the heavy marble directly from quarry to the rail lines. Opening a finishing mill in Knoxville, also reachable by railroad in 1914, would allow his firm to vie for industry dominance through much of the twentieth century.

⁶³ J. Wooldridge, "Manufacturing Interests" in William Rule, ed. *Standard History of Knoxville*, 205-207.

Another of Knoxville's pioneering marble men, northern-born William Spies Mead (1833-1908), had also come to the city soon after the Civil War. Mead, a New Yorker by birth, had moved his wife Fanny and two young sons, Arthur and Frank, to Knoxville where he immediately became a shareholder and board member at Knoxville Iron Company. Incorporated in 1868, this company was mining coal in Anderson County, Tennessee. Knoxville directories list Mead as Vice-President or Secretary-Treasurer of Knoxville Iron Company from 1876-1886. By 1887, he was also Secretary at Brookside Mills, and in this year and the following, he is also listed as President of the Tennessee Marble Association.⁶⁴ Mead's two sons, Arthur and Frank, were both engaged in business by 1889: Arthur E. Mead as President, Republic Marble, and Frank S. Mead as President, Miller Cracker. Also listed under the Mead name in the Knoxville City Directory for 1889 are the quarries of Republic Marble located in Concord, Tennessee. By 1893, both Arthur and Frank were in the marble quarry business and upon Arthur's death in January 1894, Frank became the President of Republic Marble Company. Sometime in 1900, William assumed the positions of Secretary and Treasurer for Republic Marble even though he is still listed in the 1900 United States Census as an iron manufacturer. Frank, identified as a marble *manufacturer*, indicating some sort of mill operation, was both President of Republic Marble and Secretary-Treasurer of Ross Marble, with both companies sharing an office address.

In the early 1900s, the two companies joined to become the Ross-Republic Marble Company. John M. Ross, a son of George W. Ross, who had taken over the Knoxville Marble Company, began operating a large quarry in the Island Home area of Knoxville about 1891. The later consolidation of Ross and Republic was the result of his selling this quarry (now known as the Mead Quarry) to Republic Marble. By 1901, Ross was operating a contiguous property (now known as the Ross Quarry) under the name of the John M. Ross Company. New York contractor Charles T. Wills sent a representative to Knoxville in search of pink marble for use in a proposed museum building being designed for railroad and banking magnate J. Pierpont Morgan by architect Charles Follin McKim, of the firm McKim, Mead & White. Two bids submitted to the project, dated 10 September 1901, from Ross Marble Company, Ed. H. Eaton, President; F.S. Mead, Secretary-Treasurer; Republic Marble Company, F.S. Mead, President; W.S. Mead, Secretary-Treasurer, Quarries and Mill at Luttrell, Tenn.; and one bid dated 12 September 1901, from John M. Ross, Marble Dealer, contain the same terms and prices for different types of marble, and the same basic wording. The marble of John M. Ross was selected for the job after a 1903 visit by another representative assured the clients that "the Court House building at Knoxville, the single building in which this stone has been used, has been standing for 37 years, and the arrises are perfectly straight and true, the color perfectly preserved, and that no evidence of time is observable".⁶⁵

The New York firms suggested purchasing from John M. Ross, who had a quantity of marble on hand and enough of uniform color to satisfy the building requirements. A memo confirms that the Ross marble "conforms absolutely with the marble selected by Mr. Morgan, and can be quarried as Mr. McKim wishes it, some with veining and some without, while securing the greatest uniformity of color", which suggests that Morgan and/or McKim had initiated the quest for a specific marble. Another memo stated that "the entire order can be quarried and shipped in six months and considering the guarantee of the Railroads, via Atlanta for 15 day delivery from Knoxville into our

⁶⁴ No records for this organization have been located.

⁶⁵ Morgan Library papers, New-York Historical Society, PR042, Box 269.

Yard at Port Morris, consider the delivery absolutely conclusive”.⁶⁶ The marble was ordered from Ross beginning in 1903 and the widely admired Renaissance-Revival style building, the Morgan Library (NHL, New York, 3/4/1977) completed in 1906.

One of Morgan’s great admirers was Canadian railroad man and financier James Jerome Hill, with whom he had both a business and personal relationship.⁶⁷ Late in his life, Hill left a legacy in the form of a library to his adopted city of St. Paul. It, too, would be constructed of Tennessee marble, which he had admired in Morgan’s New York buildings. Using the Morgan Library as his example, Architect Electus D.Litchfield wrote building specifications that called for “light colored Tennessee marble ... it may be from the several of the Tennessee marble quarries but there shall be no greater variation in color and character than shown in the samples at the Architect’s office ... Colorado Yule or Georgia Cherokee Gray marble will be considered”. The specifications also included the following note: “Whatever the walls of the building, set the floor slabs in the loggia of marble, as below specified [‘all of Tennessee marble’]”.⁶⁸ Shipping receipts of marble sent from April through July 1914, indicate that fifty-eight rail car loads of Tennessee marble were shipped to St. Paul via the Southern, Pennsylvania, and Philadelphia & Reading Railroad lines. The finished library building seamlessly joined two wings into one façade, giving it the intended appearance of an Italian Renaissance palazzo, with entrances to the separate spaces through doors to the left and right. While it certainly bears resemblance to the Morgan Library, the St. Paul Public Library and James J. Hill Reference Library (1914-1917) (NHRP, Minnesota, 9/11/1975) also paid homage to the Boston Public Library (NRHP, Massachusetts, 5/6/1973) in its scale and its continuous arcade of round-arched windows.

In 1911, Tennessee State Geologist Charles H. Gordon wrote the first in-depth scientific report on the Tennessee marble industry. In it, he cited figures from the *United States Geological Survey on the Mineral Resources of the United States for 1908* that show competition mounting for the Tennessee marble industry due to quickly rising production of the Georgia industry. In 1908, Tennessee’s marble industry ranked third in total value produced. The top producing state, by a factor of nearly five to one, was Vermont, which was producing nearly four- and one-half million dollars of marble annually. Vermont mills were responsible for the large majority of dressed stone for building, monuments, and interiors. Georgia, which ranked just behind Vermont and just ahead of Tennessee in value produced, led in production of rough building and monument stone. Tennessee was second only to Vermont in rough interior stone.⁶⁹

The first two decades of the twentieth century represent the height of East Tennessee marble industry production. Accordingly the quarry districts themselves became complex in their array of buildings, structures, and sites. Historically quarry districts may have consisted of several inter-related buildings, structures, and sites, the complexity of the district reflecting the period of its development. Quarry complexes often included support structures, sometimes temporary in nature,

⁶⁶ The Tompkins memo of 3 January 1903 stated that the railroad route through Cincinnati (on the L&N) sometimes took from thirty to sixty days as opposed to the guaranteed fifteen-day delivery via Atlanta (on the Southern Railway). Morgan Library papers, New-York Historical Society, PR 042, Boxes 268-269.

⁶⁷ The two men became acquainted during the height of “Morganization,” when Morgan and his investors were shoring up the Northern Pacific Railroad. Michael P. Malone, *James J. Hill: Empire Builder of the Northwest* (Norman: University of Oklahoma Press, 1996), 181-184, 209-215; Martin, *Railroads Triumphant*, 328.

⁶⁸ Electus D. Litchfield, “Specifications of Material to be furnished and labor to be performed,” September 1913. James J. Hill Reference Library, Louis W. Hill Papers.

⁶⁹ Charles H. Gordon, *The Marbles of Tennessee: Extract (D) from Bulletin No. 2*, “Preliminary Papers on the Mineral Resources of Tennessee.” (Nashville: State Geological Survey, 1911), 32-33.

which could be moved or quickly erected when quarrying moved to a different location. Associated buildings and structures may include water storage tanks, power plants, blacksmith or machine repair shops, commissaries, offices and administrative buildings.

Quarry districts typically included production centers. Production Centers are wood, stone, and brick structures and/or buildings where the extracted raw materials were turned into commodities. Lime manufacturing complexes were often located side by side with quarry operations as part of a quarry district. Production centers may include a range of individual buildings and structures, including mills, kilns, crushers, showers, offices and/or office showrooms. Sometimes, however, a marble-finishing mill and its sales office/showroom would be located in a stand-alone location, often near an urban center, closer to the market for skilled labor and also to retail locations and transportation outlets for the finished products.

Already identified examples of these large complexes include the Candoro Marble Works complex in south Knox County (NHRP, 12/4/1996), which consists of two large mill buildings, a powerhouse, a small office, and subsidiary outbuildings. It was constructed in 1914 near the railroad spur the served the neighboring Vestal Lumber Company.

The John J. Craig Historic District in Blount County (NHRP, 7/25/1989) includes the Marmor Quarry operations, which consisted of a one-story, eleven-bay, brick gang-saw building, a one-story frame commissary, a two-story crusher building, a one-story residence, two derrick power sheds, a platform for weighing and measuring blocks, and six steel derricks.

The Gray-Knox Mill Building on Sutherland Avenue in Knoxville is a complex of several large mill buildings and a modern sales office/showroom. This plant once held an extensive array of marble finishing and manufacturing equipment. The facility was later owned by the Vermont Marble Company, which continued to operate under the Gray-Knox name, and ultimately became the Tennessee Division of the Georgia Marble Company. The mill was originally associated with Gray-Knox quarries in Knox and Blount Counties. Under the auspices of the Georgia Marble Company, this mill also manufactured outside marble for national projects.

As business boomed and competition increased, the firms also recognized the need to work together in standardizing the grading of their products and attempting to control railroad shipping costs by working in solidarity. Several Knoxville firms, including Tennessee Producers, Knoxville Marble, Ross-Republic, Gray Eagle, and Gray Knox, formed the Tennessee Marble Exchange in 1913, for the “protection and benefit of Tennessee marble interests.”⁷⁰ This alliance, which lasted until 1934, employed a paid “inspector and measurer” to rate and rank color, size, and soundness and ensure that market rates reflected these qualities. This individual was also charged with negotiating the best rates with the Southern and L&N Railroads for marble shipments leaving Knoxville.

During the early decades of the twentieth century, Tennessee pink and gray marble continued to be widely used for flooring in railroad terminals and other public buildings. Georgia’s Macon Terminal Station (1916), a Beaux-Arts style building with a central columned entrance portico and flanking wings, by New York City architect Alfred Fellheimer, served the city’s fifteen operating railroads. The

⁷⁰ “Ledger of Tennessee Marble Exchange:1913-1934,” John Barksdale Jones III Collection, courtesy of Sonja Jones and McClung Historical Collection, Knox County Public Library.

limestone building boasted interior floors and walls sheathed in Tennessee pink marble.⁷¹ San Francisco's City Hall (1915) (NRHP, San Francisco Civic Center National Historic District, 10/10/1978) incorporates ten acres of interior Tennessee marble, including a spectacular cascading staircase of pink marble and matching flooring set off with a diamond-like pattern of darker marble in its central rotunda. The domed building, designed by Beaux-Arts-educated architects John Bakewell and Arthur Brown, Jr., was the centerpiece of a City Beautiful plan initiated for the 1915 Panama Pacific Exposition in San Francisco.⁷²

One of the finest showcases for Tennessee marble in this era set a precedent for many of the federal buildings that would be erected during the Great Depression. James Gamble Rogers's federal courthouse for New Haven, Connecticut (1913-1919) used Tennessee pink marble on both interior and exterior. The city of New Haven had invited Cass Gilbert and Frederick Law Olmsted to create a unified plan for future additions to its central green space. Their plan required that all new buildings be created in harmony with existing structures. Rogers, also the architect for Yale University, was hired by the U.S. Treasury Department. His charge was to create a building in keeping with local design regulations that would also be immediately recognizable as dignified federal architecture. His Classical Revival-style design has an entrance portico supported by Corinthian columns, a triangular pediment, and niches on either side of the entrance. The exterior is clad in pale-colored Tennessee marble with the outside steps of pink Milford granite. In the interior, the same marble, polished to show its pink color, was used for the main staircase, the elevator lobbies, and for twenty monolithic columns in the second floor lobby outside the courtroom.⁷³ This building's simplicity has worn well; its crispness of effect a testament to Tennessee's durable buff-colored marble. Rogers was one of the last private architects to be granted a contract for a building erected under the auspices of the Treasury Department. Federal government projects to come, during the massive Depression-era building boom designed to boost local economies, would be governed by a design template created by architects within the Washington bureaucracy.⁷⁴

After the exuberance of the expansive 1910s and 1920s, large architectural projects demanding expensive and custom-sawn and hewn materials like Tennessee marble became fewer and fewer. New building materials such as cast concrete slabs and glass window walls came into use with international modernism, and decorative carving of architectural detail began to be a lost art. Marble quarries seeking additional sources of revenue went into the business of burning lime directly for saleable by-products, or made lease arrangements with companies who could put waste marble to productive use. Some producers began to market alternative marble products aimed at middle class clients, such as cast stone veneer, tile, and terrazzo floor materials.

Even though the explorations of form and economy in construction that had created the skyscrapers was beginning to impel more and more modernist design, Beaux Arts-influenced Classical and Renaissance Revival-style buildings continued to prevail in certain quarters over the coming decades.

⁷¹ Fellheimer and Steward Wagner, partners in the successor firm to Reed & Stem, also created Cincinnati's flamboyant Art Deco-style terminal in 1929-33. Grow, 121.

⁷² San Francisco City Hall, virtual tour, downloadable .pdf at <http://www.sanfrancisco.gov> [accessed 28 March 2011].

⁷³ Richard C. Lee U.S. Courthouse, New Haven, historical building description. <http://www.gsa.gov/portal/ext/html/site/hb/category/25431/actionParameter/exploreByBuilding/buildingId/0901> [accessed 26 January 2010]

⁷⁴ Christine Kreyling, *From Post Office to Art Center: A Nashville Landmark in Transition* (Nashville: Frist Center for the Visual Arts, 2001), 25-26.

Architectural Historian Richard Guy Wilson has suggested that the firm of McKim, Mead & White, whose prominence prevailed well into the 1930s and early 1940s, created norms for American public architecture: presenting not only “good design” but also a reassuring glance at the “cultural heritage and accomplishments of Americans”.⁷⁵ Christine Kreyling, writing about federal architecture projects of the 1930s, has further suggested that the desire for visual order might have been strengthened by anxieties brought on by increased immigration and shifts in the labor economy even prior to the stock market crash of 1929.⁷⁶ The substantial facades of public buildings provided a sense of local and federal government presence. The fact that they were built of materials that exuded strength added to the impression of government infallibility. In locations where these building materials were readily at hand, as in Tennessee, their familiar appearance engendered local pride and added prestige for local firms.

One of the strategies used by President Franklin D. Roosevelt’s administration to prompt the economic recovery during the Great Depression was increasing allocations for the Treasury Department’s architecture program, which created a raft of new federal building projects. Because these buildings adhered to a standardized design type: large rectangular blocks decorated with simplified, modernized (streamlined) versions of classical elements, and used local building materials whenever possible; they provided immediate work for local laborers and could be constructed in a short period of time.

Post office buildings with very similar profiles were erected in Nashville, Knoxville, and Chattanooga from 1932-34. All three federal projects employed local architecture firms and called for Tennessee marble, as did the Tennessee Supreme Court building in Nashville, which was constructed from 1936-37. The architecture firm chosen to oversee the Nashville Post Office was Marr & Holman (NHRP, 11/15/1984), Chattanooga’s Post Office was awarded to architect R. H. Hunt (NRHP, 2/29/1980), and the Knoxville Post Office (NRHP, 5/31/1984) was the project of Knoxville-based A.G. Baumann. While the Nashville and Chattanooga post office buildings are clad in white Georgia marble, the Knoxville building exterior is Tennessee pink marble, finished at the Candoro Marble Company.⁷⁷ The foundation and exterior doorways of this well-preserved building (now used as a bank and office building, with a small branch post office accessible by a side entrance) are a slightly darker but complementary shade of polished granite. The dramatic lobby features an unusual combination of Tennessee gray and greenish red decorative marbles, with a floor pattern composed of Tennessee pink and brown variegated marble. The building’s large exterior decorative eagles, a common symbol in the federal architecture of this period, were carved by local artisan Albert Milani, who was employed for many years at the Candoro Marble mill. Both the Chattanooga and Knoxville buildings exhibit a similarly wide range of decorative interior marbles, the majority of which were sourced in Tennessee.

While the John M. Ross Company had been obtaining high-profile commissions in New York City, other Knoxville companies, including Frank S. Mead’s Ross-Republic Company, and John J. Craig

⁷⁵ Richard Guy Wilson, *McKim, Mead & White, Architects* (New York: Rizzoli, 1983), 53.

⁷⁶ Kreyling, 26-27.

⁷⁷ Knox County Public Library, McClung Historical Collection, Craig/Candoro Papers, Candoro Marble Company Cash Book, 1914-1918. This book includes pages titled “Sawing” 1928-1941. From January to April 1933, all sawing done at the Candoro mill was for the Knoxville Post Office.

and his affiliates also did very well during these early decades of the twentieth century.⁷⁸ The Craig Company acquired some of the older quarries in Knox County and opened a promising vein of marble in Blount County, where John J. Craig and his partners in the Great Southern Marble Company had been leasing quarry land as early as 1888. With the opening of the Marmor Quarry near Friendsville in 1896, the John J. Craig Company began a string of quarry and mill operations in Blount County that would ultimately expand to six quarries. The Craig Company built a tram road in 1903 to connect their main quarry to the L&N Railroad system. Another of their affiliates, the Tennessee Producers Marble Company, became active in Blount County in 1907. The John J. Craig Company, alone and in partnership with other Knoxville marble firms, would become one of the two major producers of Blount County marble. A cash book from 1909-1912 shows shipments via railroad to locations all around the United States, including Chicago, Cleveland, Milwaukee, Cambridge, Massachusetts, Mobile, New York City, Houston, St. Louis, San Francisco. The majority of this cargo went out on the L&N Railroad.

One of the Craig Company's most important partnerships, CANDORO, was a centralized marble-milling and exporting firm created by a group of Knoxville businessmen in 1914. The company name is an invention based on a combination of letters drawn from the names of its principal owners: C (John J. Craig), AN (F.C. Anderson), DO (W.J. Donaldson), RO (S.A. Rodgers). Located on property next to the Vestal Lumber Company, with its already extant south Knoxville railroad spur, Candoro, with John J. Craig IV as the primary partner, grew to become a leader in the marble finishing industry. Candoro's prime location, in between the Southern Railway and the L&N Railroad tracks in South Knoxville, gave it an advantage in obtaining the most expedient routes for its cargo. The company operated by the most modern methods, including taking the initiative to contract with the Southern Railway, in 1923, for a track to the John J. Craig Company's Victoria Quarry, in the Boyd's Bridge area of Knoxville.

Prior to the founding of Candoro, J.B. Jones, who would soon become another important industry leader, was a salaried employee of the John J. Craig Company. Jones, who was a sales representative for the company from 1904-1910, helped run the company after the death of President John J. Craig II in the New Market train wreck of 1904, and had acquired stock by 1916. He sold his stock in the company back to Craig family members in 1941. He also owned quarry lands in Blount County and in Grainger County, near Thorn Hill, Tennessee, the source of a dark gray marble known as Imperial Black. After leaving the John J. Craig Company and its affiliated Candoro marble mill, Jones founded Gray-Knox Marble Company in Knoxville. It was a family-owned business, which employed his son, J.B. Jones, Jr., who later served as the company president. Gray-Knox Marble Company not only owned quarries but also ran an enormous milling operation on Sutherland Avenue in Knoxville. After a series of mergers involving the Vermont Marble Company, and the Georgia Marble Company, J.B. Jones, Jr. continued marketing both Georgia and Alabama marble. His grandson, John Barksdale Jones III, also an experienced marble man, oversaw such important projects as the East Front extension of the United States Capitol building, and recorded the marble finish work done by the firm for the United States Supreme Court building in 1935.⁷⁹

⁷⁸ With the exception of Craig/Candoro company papers on deposit at the Knox County Public Library, McClung Historical Collection, and a recorded slide lecture by Barksdale Jones, a descendant of the founder of Gray-Knox Marble Company, which has been placed on deposit in the McClung Historical Collection, no business records for these companies are known to exist.

⁷⁹ Color slides and recorded slide lecture, Collection of John Barksdale Jones and Finbarr Saunders, descendants of John Barksdale Jones, Sr., McClung Historical Collection, Knox County Public Library.

When representatives of the Andrew Mellon Foundation came calling in Knoxville in 1936 in search of a large quantity of Tennessee marble for the planned National Gallery of Art on the National Mall, their aim was to convince the most prominent of the Knoxville industry owners to work together, re-opening closed quarries if necessary. The new art gallery was intended to emulate the architecture associated with earlier models of individual moral and corporate behavior, such as Andrew Carnegie, J. Pierpont Morgan, and James Hill, all beneficiaries of the American free enterprise system, like Mellon himself. The architect chosen for the project was John Russell Pope, a graduate of Columbia University and the École des Beaux-Arts, and a latter-day exponent of the “American Renaissance” who had trained in the offices of McKim, Mead & White.

Representatives of the Mellon Foundation and the office of John Russell Pope made exploratory visits to Knoxville in search of Tennessee pink marble similar to that from which the Morgan Library had been constructed. Young architect Malcolm Rice, a graduate of Yale School of Architecture, had already been dispatched by the Pope firm to investigate the quarries. Rice’s stroke of genius was to create a scheme using different shades of marble in ascending layers from dark to light, interweaving them to achieve a subtle blend, which made it possible for the builders to use marbles from different quarries and still achieve the appearance of a seamless façade for the monumental structure. The Mellon team came to agreement in Knoxville on 1 October 1937 with the officers of the Gray-Knox Marble Company, Candoro, the John J. Craig Marble Company, and Tennessee Marble Incorporated, who agreed to work together in supplying marble for the building. Representing the famous “Ross pink” marble brand (the pink marbles mined by the Ross and Ross-Republic companies) was Alexander Harris, Tennessee Marble Incorporated.⁸⁰

The resulting museum, one of the last major “American Renaissance” public monuments, was to be as solid and impressive as possible. The design was for a restrained Renaissance Revival-style building, very much like J.P. Morgan’s library, with thick Tennessee marble blocks laid so as to give the appearance of ashlar construction.

While much of the work on this project was done at the Candoro mill, the mills of Gray-Knox and Tennessee Marble also crafted elements, and all three companies provided quarried stone. Completed in 1941, the National Gallery of Art featured a demonstration of excellence in marble craftsmanship that would come to be seen as a rare accomplishment in the years ahead. The project gave an enormous economic boost for the Knoxville-area industry, but would be one of the last of its kind. Concurrent with its fulfillment, Tennessee Valley Authority (TVA) geologists were compiling research on proposed areas to be flooded by a dam on the Tennessee River that would create Fort Loudon Lake.

A report by TVA’s Chief Geologist noted that over half the marble produced in the United States in 1935 came from four states in the Tennessee Valley Region: Tennessee, Georgia, Alabama, and North Carolina.⁸¹ The Holston Marble, present primarily in East Tennessee, also extended into North Georgia, but Eckel reported that its chief areas of development were at Knoxville, Friendsville, Louisville, Concord, and Luttrell, and that the Hawkins County quarries were no longer productive.

⁸⁰ Through a series of default trust deeds, Tennessee Marble Incorporated had acquired the marble properties belonging to both John M. Ross, in his late seventies, who was now retired, and the Ross-Republic Company, formerly owned by Frank S. Mead, who had been ill for some time and died that same spring.

⁸¹ Edwin C. Eckel, “Structural Materials of the Tennessee Valley Authority Region,” *Bulletin No. 6, Division of Geology, Tennessee Valley Authority* (July 1937).

During these decades of industry prosperity, many of the domestic residences, commercial and industrial buildings, and public buildings erected not only reflect the use of Tennessee marble as a popular building material but also attest to local expertise in stone craftsmanship. While some are associated with important leaders of significant businesses in the East Tennessee marble industry, others give evidence of pride in local materials and workmanship.

In the early 1920s, Knoxville architect Charles Barber designed an office/showroom for the Candoro Marble Company. This Renaissance Revival-style building, which served as the headquarters of the company as well as the public entrance to the Candoro mill complex, is clad in smoothly-sawn pink Tennessee marble. The building features recessed marble window frames and ledges, carved dentil and rope moldings, a terra cotta roof, and an attached garage with simple arched arcade. The interior rooms, which functioned not only as office spaces, but also as

showrooms, feature polished decorative marble wainscoting and floors of a wide variety of patterns and colors. While most of these marbles were sourced at the John J. Craig Company's quarries in Knox and Blount Counties, the floors and walls also included some of the other types of domestic and imported marble that could be ordered and finished at Candoro's mill.

In the 1930s, the John J. Craig Company, which was operating a quarry district in an isolated rural location on the outskirts of Friendsville, purchased a historic bank building to serve as a public sales office/showroom. Retrofitted in the late 1930s with marble interior floors and wainscoting, this one-story commercial-style brick building, erected in 1909, was the former State Bank of Friendsville and People's Bank. Its handsome façade with tall arched windows, arched doorway, and three round clerestory windows would have been visible to railroad passengers from the tracks that passed through the center of town.

The Gray-Knox Marble Company erected a mid-century modern building, designed by Knoxville architects Painter, Weeks & McCarty and completed in 1947, next to their marble mill complex on Sutherland Avenue. This one-story building features marble clad walls and a marble-lined entry foyer with a futuristic angular reception desk of gray marble with cedar marble trim.

Among the numerous residences built in and around Knoxville during the boom years of the East Tennessee marble industry were not only the architect-designed homes of company presidents but also the vernacular dwellings of superintendents, quarrymen, and contractors. One of the earliest examples of a high-style home is Craighlen (1928), in the Lyons View/Westland Drive neighborhood, which was designed by architect Charles Barber for John J. Craig III, President of the Candoro Marble Company. Modeled on a Florentine town house, the Palazzo Davanzati, this house features exterior craftsmanship in local materials including Tennessee pink marble, as well as a variety of Italian and American marbles in the interiors. The decorative carving for this house was done by marble artisan Alberto Milani, who worked for Candoro and several other firms in the area. Also designed by Charles Barber is a two-story home at 3649 Iskagna Avenue, in the Talahi section of the Sequoyah Hills subdivision in Knoxville, which was built for George Shoffner, President of the Gray-Knox Marble Company, in 1939. The exterior of this house is irregular pink and variegated marble. The interior includes marble mantles and hearths and a basement floor of marble scrap. Many houses erected during this period also include landscape elements visible from the street, such as low retaining walls, sidewalks, and backyard grill enclosures. The former Shoffner home has a

“picnic” table in the backyard that was made from slab and column base from the National Gallery of Art project.⁸²

Much more modest in scale is the Blount County home of Sonja and John Barksdale Jones III, which is located just off Light Pink Road, in Louisville. It was constructed for a former superintendent of the “French Pink” (or Light Pink) Quarry in the 1930s. This one and one-half story Tudor Revival-style dwelling has such exterior features as a small walled formal garden, walkways, fountains, and large lathe-turned urns, all of which were crafted from marble at the nearby quarry. Owner John Barksdale Jones III, the grandson of J.B. Jones, Sr., founder of the Gray-Knox Marble Company, worked for the successor firm, the Tennessee Marble Company, Division of the Georgia Marble Company. He also operated the Imperial Black Marble Company and its quarry in Grainger County, which makes him the last local owner of an East Tennessee marble quarry. Barksdale Jones served as President of the Marble Institute of America in 1993.

In Hawkins County, Pauline Stamps commissioned a modern one-story pink marble house to be built on Main Street in Rogersville. Built entirely of rough-cut, locally-quarried stone, it was completed in 1956. Pauline Stamps was the widow of J.C. Stamps, one of Hawkins County’s most successful marble men. J.C. Stamps and his uncle, H.A. Stamps, operated the Stamps and Stamps-Star marble quarries, in the Mooresburg section of Hawkins County, during the late nineteenth and early twentieth centuries. Since TVA inundation, the Stamps home, as well as the two closed-down quarry sites, remain isolated hilltop locations cut off from Highway 11W, which was relocated to higher ground. After her husband’s death, Pauline Stamps chose the location for her compact stone house just a few blocks away from Rogersville’s main business district with the intention of willing it to the City of Rogersville for use as a public library. It served that purpose for several decades, until the City of Rogersville built a new library. Today, it is used by the local Episcopal congregation. The house retains structural and historic integrity and its original landscape setting, including a marble walkway and retaining walls lining the sidewalk in front.

Decline and Transformation in the Tennessee Marble Industry, 1940-1963

Neither Andrew Mellon nor John Russell Pope lived to see the completion of the National Gallery of Art building. The project, however, came in as planned by the architects and construction engineers, due in no small part, to the cooperative arrangement between three Knoxville marble companies. The opening of the building was a bright moment in the history of the East Tennessee Marble Industry and

prompted accolades in the press. And while contemporary architects may have grumbled about latter day classicism and the antiquated style of the building, they took notice of the first-class materials throughout the building, as well as the companies that supplied them. The prestige of this single project did more to carry the industry forward than any other.

According to Mellon Foundation records on the construction of the National Gallery of Art, the lead partner firm was the John J. Craig Company, with President John J. Craig IV. Much of the finish work

⁸² According to the Tennessee Marble Company’s former timekeeper, Shelton Hastings, the marble for another home in the same Talahi section of Sequoyah Hills, which was built for Tennessee Marble Company President Carl V. Stafford circa 1947, came from the company’s Ross Marble Quarry. The stoneworkers’ labor was also charged to the company. Shelton Hastings, personal interview May 2013.

was undertaken at Craig's Candoro mill complex. Historic photographs show large column drums being taken from the Craig Company's Victoria quarry, in the Brabson Ferry/Boyd's Bridge section of Knox County. Other partners and their source quarries included: the Gray-Knox Marble Company, with President Alphonse Salamone (J.B. Jones and George Shoffner were officers), which furnished marble from its Asbury Quarry, in the Forks of the River district, and the Tennessee Marble Company, whose president was Alex Harris. The Tennessee Marble Company, which had acquired the properties formerly belonging to John M. Ross, the Knoxville Marble Company, and the Ross-Republic Marble Company, furnished marble from the Ross Quarry.

While there had been changes in ownership of quarry properties and companies during the years of the Great Depression, the three partner firms in the National Gallery of Art project survived for another couple of decades, at least in name. But the momentum provided by the National Gallery of Art project was relatively short-lived. The entry of the United States into a full-fledged war effort after the bombing of Pearl Harbor the following year, would divert the energies of man and machine and place new demands on the extractive industries until at least the end of the decade.

John Craig IV died in 1944 while his son was serving overseas in the armed forces. After returning from war, John Craig V took over the company. He and Gray-Knox Marble Company President, J.B. Jones, Jr. were rivals and also close friends. Both men continued to promote the industry on a national scale.

By the 1950s, there were just five companies quarrying marble in Knox and Blount Counties: Gray-Knox, Tennessee Marble Company; the John J. Craig Company which owned Victoria and Marmor Quarries and leased others in the vicinity of Friendsville; the Friendsville Marble Company which owned the Endsley Quarry and was under an agreement to sell all of its output to the Vermont Marble Company; the Imperial Black Marble Company also owned by J.B. Jones, Jr., which was marketing Tennessee's only black marble from a quarry in Grainger County; and the Appalachian Marble Company which owned several quarries in the Forks of the River section of Knox County.

By 1955, Gray-Knox was an "integrated producer" of dimension marble. Not only was the company running a large mill on Sutherland Avenue, it was quarrying marble in the Forks of the River area of Knox County, and in Blount County at the French Pink Quarry near Louisville and at the Brown Quarry near Friendsville. Gray-Knox was also selling low-grade waste to Standard Lime & Stone and they were beginning to manufacture "split-face ashlar," which is marble sawn to a specified thickness for use in masonry walls.⁸³

The John J. Craig Company was operating marble mills and quarries in both Blount and Knox Counties. Although the company was also involved in a venture in the cast stone business, and produced chips that could be used for terrazzo flooring, it does not appear to have gone into the production of lime from marble waste, as did most of the other companies. The fact that these companies were developing alternative processes and uses for marble and marble by-products suggests that the industry was beginning to wane by the late 1950s.

Even though the Gray-Knox Company as an entity was dissolved June 3, 1960 in an acquisition by the Vermont Marble Company, it kept the name and continued to operate in Knoxville and to employ

⁸³Gray Knox Marble Company v. United States of America, June 8, 1966, Robert L. Taylor, Chief Judge.

J.B. Jones, Jr. The Vermont Marble Company even sent Jones to Italy to research current marble operations. In 1965, they closed down the Knoxville operations entirely.

Although the marble production in Blount County was outranked in quantity by Pickens County, Georgia, and Rutland County, Vermont, for the year 1960, production in the state of Tennessee led the nation in 1959. According to an article by journalist/historian Dean Stone, who has covered the local industry for decades, Blount County had eight active quarries in 1962, six of them extracting marble for a new building of the Smithsonian Institution.⁸⁴ Three area mills were producing the finished pink marble for the job: Gray-Knox, Candoro, and the Tennessee Marble Company. By this time, the Georgia Marble Company had acquired the Tennessee Marble Company holdings, which included a quarry and mill in Union County at Luttrell, and a large mill on Knoxville's Riverside Drive, in addition to the previously acquired Ross and Ross-Republic properties. This combination of sites became known as the Tennessee Marble Company, Division of Georgia Marble Company. Despite the apparent acquisition of the property by the Georgia Marble Company, the Williams Lime Company, which had leased a property contiguous with the Ross Quarry for several decades, continued to operate there and at the old Ross-Republic Quarry. In 1963, Concord's Winfrey Brothers, who had achieved a national reputation, became the stone-setting division of the Georgia Marble Company.

The John J. Craig Company continued its operations in Friendsville and at the Candoro mill, which finished not only local marble but also imported foreign and domestic marble, until The Vermont Marble Company ceased operations in and around Knoxville in 1965. The Brown Quarry in Blount County, which had formerly belonged to Gray-Knox, was purchased by several local marble men who had formed a company under the name of The Marble Shop. Over the next several decades, both this company and the John J. Craig companies would take on local projects and intermittent national projects. But growing foreign competition, advances in engineering that substantially changed the nature of quarrying and finishing operations, and an increased demand for lime and other raw materials for industrial use, by the chemical and pharmaceutical industries, ultimately took its toll on the aging industry. In 1993, a generation of new owners, with new technology, a new business model, and historical ties to the earlier industry began to revive some of the marble quarries in Blount County. Today, three of those quarries are once again producing marble for national projects.

⁸⁴ Dean Stone, *Maryville-Alcoa Daily Times*, 27 February 1962. The building he mentions was the 1964 Smithsonian Museum of History and Technology, a modernist design by McKim, Mead & White, which is now National Museum of American History.

F. ASSOCIATED PROPERTY TYPES

Introduction

Above-ground resources associated with the East Tennessee Marble Industry change significantly from 1838 to 1963. Only a few landscape features and even fewer industrial structures remain from the first period of significance: the **Discovery of East Tennessee Marble, 1838-1850**. Of the quarry operations that were developed during the second period of significance, **Railroads and the Marketing of East Tennessee Marble, 1850-1890**, most confined their work to quarrying practices, shipping raw materials to distant markets rather than undertaking more profitable finish work. Quarry districts, including production mills and lime plants, did not really appear until the third period of significance, **East Tennessee Marble and Tennessee's Industrial Era, 1890-1940**, when the total production of marble by East Tennessee firms rose to third highest in the United States. During the fourth period of significance, **Decline and Transformation in the East Tennessee Marble Industry, 1940-1963**, a number of marble quarry properties were inundated by TVA. As the demand for expensive, custom-crafted building materials waned; marble quarrying ceased in all but a few locations. Many of the remaining marble plants began to deteriorate physically. Some quarry pits were allowed to fill with water and some former marble industry sites were converted to other industrial uses.

Property Types

Each Quarry Pit and Quarry District would be denoted as one site on the individual nomination form for eligible properties associated with the East Tennessee Marble Industry, ca. 1838-1963.

Quarry Pits

Quarry pits are locations where the industrial process of extracting East Tennessee marble took place. They are often the only significant remnants from the first two historic contexts. Physically the pits are large holes or depressions where marble and/or the overburden of soil and other rock have been removed, leaving behind quarry walls showing evidence of quarrying techniques; waste blocks bearing marks made by drills, chisels, grab hooks, saws or other stonemason tools; anchor blocks or concrete or stone pads for derricks once used to lift and move stones within the quarry; and debris such as drill bits and cores, tools, metal rope, wood, bricks or stones that might once have served as foundations, as well as wood or metal siding once used for buildings.

Quarry Districts

Historically quarry districts may have consisted of several inter-related buildings, structures, and sites, the complexity of the district reflecting the period of its development. Quarry complexes often included support structures and buildings, sometimes temporary in nature, which could be moved or quickly erected when quarrying moved to a different location. Buildings, structures or sites that may be included in a quarry district are the following:

- **Derricks**, which are wood, metal, stone, and/or concrete structures that have platforms, masts and booms with guy wires. The tall (100' foot high is common) masts and long booms to which metal cable and hook mechanisms could be attached to hoist and move blocks of stone, were mounted on circular steel armatures that could turn 360 degrees, held upright by guy wires, and anchored to stationary platforms. While early derricks might have been operated by hand, or by horsepower, by the late 1890s, steam powered engines and pulley and lever machinery made the difficult and dangerous procedure of lifting and moving blocks somewhat safer and easier. Derrick platforms were usually built on high ground within a quarry in order to provide greater access to materials within a 100' or more radius. They might be mounted on a high hill beside the quarry, anchored to a concrete pad poured specifically for the purpose, or mounted to a "wall" or "column" of solid stone that had been left un-quarried for this purpose. Once quarrying was finished, the derrick mast and boom could be moved to another location.
- **Lime manufacturing complexes** were often located side by side with quarry operations. These consisted of crushing operations for the scrap marble, and kilns to burn the marble into lime. At the Mead Quarry, the base of a six-kiln structure is positioned between the quarry pit and railroad tracks that linked the quarry to the company's production mill, as well as to both river and rail transportation.
- **Powerhouses** are wood, stone, and/or brick buildings where energy was generated to turn the engines needed for quarry operations such as hoisting, drilling, and channeling. Powerhouses also provided shelter for machinery to operate derricks and the boilers or, later, air compressors, that powered them.
- **Pumps** are metal structures used when quarry operations extended below the water table or to make water easily available for machine power. Metal pipes or tubes fitted together into pathways conveyed steam to power drills and other quarry machinery. An extant iron pipe leading out of a quarry pit indicates that the pit might have once been filled with water.
- **Water storage tanks** are elevated wood tub or closed metal tanks, where water might once have been pumped up from a quarry, or which could be tapped to supply water for a steam plant. Historic photographs of the Mead Quarry, circa 1910, show quarrymen working with steam pipes in the quarry pit.
- **Blacksmith shops** are wood, stone, and/or brick buildings where tools could be forged, parts such as drill bits could be fabricated, or repair welding done on site as needed in quarry operations. An historic photograph from the 1920s shows a wooden blacksmith shed and two working blacksmiths at the Mead Quarry.
- **Waste marble stacks** are sites consisting of stacked marble block. While some of these blocks were still usable and might be retrieved later, many were not. In the Ross Quarry, a stacked block wall that divides the quarry into two rectangular chambers was built with a "keyhole" passage between the two so that workers could walk from one to

the other. The weight-bearing structure also provided a high and accessible location so that derricks could be elevated above the quarry for operation.

- **Worker Housing** was sometimes located on or near quarry sites. As many as twenty three-room dwellings in areas bordering the quarry pits are indicated on a 1918 survey map of the Ross Quarry property. Another way to document marble workers are cemeteries related to the former quarry. Quarryville Cemetery, Hawkins County, possesses historic integrity and significance to the early East Tennessee marble industry. The cemetery includes burials of the early and prominent Galbraith family whose members inter-married with the Rogers family (founding citizens) and whose lands furnished the marble for the interiors of the U.S. Capitol Building and after which the "Galbraith" belt of marble was named by Tennessee geologists. The artistic merit of stone carving and decorative motifs on several grave markers also merits an assessment of significance in art for the cemetery.

Many of the marble companies also established and operated production centers. Sometimes the centers were adjacent to the quarry, but the importance of railroad transportation meant that they could be located elsewhere, as long as they were accessible by railroad. The production centers also had their own characteristic building types, including:

- **Mill buildings** are large, typically rectangular, brick or wood buildings with gable roofs that housed gang saws for cutting the marble into slabs and blocks before transport by rail.
- **Kilns and kiln chambers** can be either rectangular chambers, beehive (arched top), or cylindrical structures/buildings with openings below for the heat source (wood, charcoal, coal) and exhaust stacks above to guide high temperature waste smoke and other emissions away from the kilns. Burning lime as a by-product of the marble industry became common practice in the early twentieth century and some companies conducted operations side by side. Since lime kilns were usually brick lined, the remains of a kiln site might be strewn with bricks that could withstand the high temperatures at which lime disintegrates (+1200 degrees). As was the case at the Mead Quarry operation, banks of kilns were sometimes enclosed within a wood building.
- **Crushers** are structures used to break stone into burnable or otherwise usable chunks. A metal hopper structure mounted above a concrete slide ramp can be found in Concord, beside the former railroad track, and approximately five-hundred feet from the quarries that operated until the late 1930s on Calloway Hill. Crushers were used in lime production complexes, such as the one next to the Mead Quarry in Knox County. They were sometimes enclosed in wood plank or metal buildings, as at the Marmor Quarry in Blount County.
- **Shower Houses** are wood rectangular buildings where workers in production centers would wash off marble and lime dust accumulated during a work shift.

- **Administrative buildings** can range from cabin-type wood buildings housing an office, a commissary, a superintendent's residence, a power shed, or a storage building, to more formal sales office/showroom buildings, depending upon the needs and location of the quarry or mill operation.

East Tennessee Marble Buildings and Structures

As part of the promotion and development of the East Tennessee Marble industry, marble entrepreneurs and contractors built buildings and structures that showcased the utility and beauty of the stone. Identified resources have been found for the third and fourth historic contexts.

Sales office/showrooms are typically the architecturally ornate buildings associated with the marketing of Tennessee marble commodities. These were often handsome, architect-designed buildings, usually featuring marble exteriors and/or interiors. They could be located at a marble production location, at or near a marble quarry location, or elsewhere.

REGISTRATION REQUIREMENTS: Quarry Pits

Criterion A

Quarry Pits associated with any of the four historic contexts are most often eligible under Criterion A under the theme of Industry/Processing/Extraction. To meet Criterion A eligibility, the property must be directly associated with significant historical events and/or pattern of events in the history of the marble industry in Tennessee and the property must have been in existence at the time that the historical event occurred.

REGISTRATION REQUIREMENTS: Quarry Districts

Criterion A

Quarry Districts, which are most often found extant from the third and fourth historic contexts, are most often eligible under Criterion A under the themes of Industry/Processing/Extraction, Commerce, and Transportation. To meet Criterion A eligibility, the property must be directly associated with significant historical events and/or pattern of events in the history of the East Tennessee marble industry.

Criterion B

Quarry Districts may have eligibility under Criterion B if they are the resources most directly and strongly associated with the significant period of the productive career of an individual significant to the industry. Quarry Districts, since they are where the marble was mined and most often processed, may best meet this assessment of eligibility, certainly more so than the residences of significant individuals.

To meet Criterion B eligibility, the property must be associated with a prominent person in the history of the discovery, development, promotion, and/or management of the East Tennessee marble

industry and the property must be associated with that person during their period of significance in the East Tennessee marble industry. Prominent geologists, marble quarry, marble mill, or marble company owners, and industry promoters are the most likely subjects for Criterion B significance.

REGISTRATION REQUIREMENTS: East Tennessee Marble Buildings and Structures

Criterion C

Marble buildings and structures may possess significance in architecture, craftsmanship, and/or art. The mere use of East Tennessee marble in a property does not necessarily convey significance under Criterion C. Properties must possess overall merit in architectural design and/or craftsmanship to be eligible for listing in the National Register under Criterion C.

Objects that are cemetery markers, monuments, memorials, or historic sculpture must also possess overall merit in their artistic design and statement. These types of properties would not be eligible if merely they contained East Tennessee marble. Landscape elements are only significant when they remain within their original location and associated with their original installation.

PERIOD OF SIGNIFICANCE

Four distinct periods of significance in the history of Tennessee marble have been identified:

1. The Discovery of East Tennessee Marble, 1838-1850
2. Railroads and the Marketing of East Tennessee Marble, 1850-1890
3. East Tennessee Marble and Tennessee's Industrial Era, 1890-1940
4. Decline and Transformation in the East Tennessee Marble Industry, 1940-1963

ASSESSMENT OF INTEGRITY

Properties may meet registration requirements if they possess sufficient character and integrity to retain their sense of time and place from their period of significance. Many properties associated with the East Tennessee Marble Industry, since they are industrial properties, will exhibit change due to repairs or changes in the extraction and processing techniques of the raw material. However, even if the typical buildings or structures associated with the industry are no longer extant, the quarry pit or district may retain a sufficient number of characteristics of the extraction process, be connected to historic property owners, and be located in proximity to historic transportation routes during its period of significance to retain its historic integrity.

Particularly valuable questions to raise about the integrity of property types in this nomination are:

Location Is the property situated as it would have been during its period of significance?

Association Does the property retain enough physical fabric to connect it to significant events or persons in the history of the East Tennessee Marble Industry? For quarry pits, the actual mining pit must exist and a substantial portion must be visible.

Setting Is the historic setting of the property intact? Do substantial modern intrusions, such as highways, commercial development, and modern outbuildings, sites, and structures exist? Are these intrusions located on the property or on immediate adjacent property? Are the modern intrusions so distracting that they lessen or eliminate the sense of time and place conveyed by the historic property?

For Quarry Districts and East Tennessee Marble Buildings and Structures, have intrusions and noncontributing structures and buildings affected the district's ability to convey a sense of significance? Do the physical features and characteristics that distinguish the district still exist?

Feeling Do the property and its lot retain an ability to convey a sense of time and place from its period of significance? Has this feeling been compromised by new and/or incompatible adjacent property use or construction?

For Quarry Districts, consideration should be given to the impact of intrusions, such as changes in rivers or rising water, and non-contributing structures and buildings. Can a sense of significance still be conveyed by the district as a whole?

Design Are the design qualities, as represented by its distinguishing significant architectural elements and features, from the property's period of significance still extant and apparent? To assess a property's significance under Criterion C, key distinguishing features for East Tennessee Marble Buildings and Structures would include: exposed marble walls, marble interior fixtures and decorative elements, and marble landscape elements.

Integrity will be retained if these adaptations belong to the nominated property's period of significance and do not overwhelm the initial construction, design, and style of the building to the degree that the building loses its integrity of feeling, design, materials, and workmanship of its period of significance.

Materials As much as possible, historic properties should retain their original building materials to their period of significance. Does the building display its original construction materials? How much original material has been lost? How much has been retained? When and why did these alterations take place? Were the changes within the period of significance and associated with the building's thematic significance? In general, for nominations under Criterion C, East Tennessee Marble Buildings and Structures should have at least 2/3 of the original marble construction extant so the property can convey its use as a showcase for the value of using marble in buildings and landscape materials.

Workmanship As much as possible, historic properties should retain their construction techniques and overall form and plan for their period of significance. How much of the original workmanship and building plan survive? When and why did these alterations take place? Were the changes within the period of significance and associated with the building's thematic significance?

G. Geographical Data

The area of significance includes portions of the Tennessee counties of Hawkins, Knox, and Blount, following the strata of Holston Marble occurrence in East Tennessee. Although the marble strata runs through sections of Grainger, Union, and Loudon Counties, the historic marble industry centers were in and around Mooresburg/Rogersville, Concord, Knoxville, and Louisville/Friendsville.

See Figure 3 (below) for a general map of the marble quarries of East Tennessee

Hawkins:

Mooresburg to Rogersville corridor on Hwy 11 W

Knox:

Forks of the River

Riverside Drive/Delrose/Brabson Ferry/Boyd's Bridge (North Bank of TN River)

Riverside Drive becomes Island Home Pike (South Bank of TN River)

Concord Road to Northshore Drive

Blount:

Louisville from 333 to River

333 corridor, both sides of road, to Friendsville

321 Friendsville to Loudon County line, both sides of road

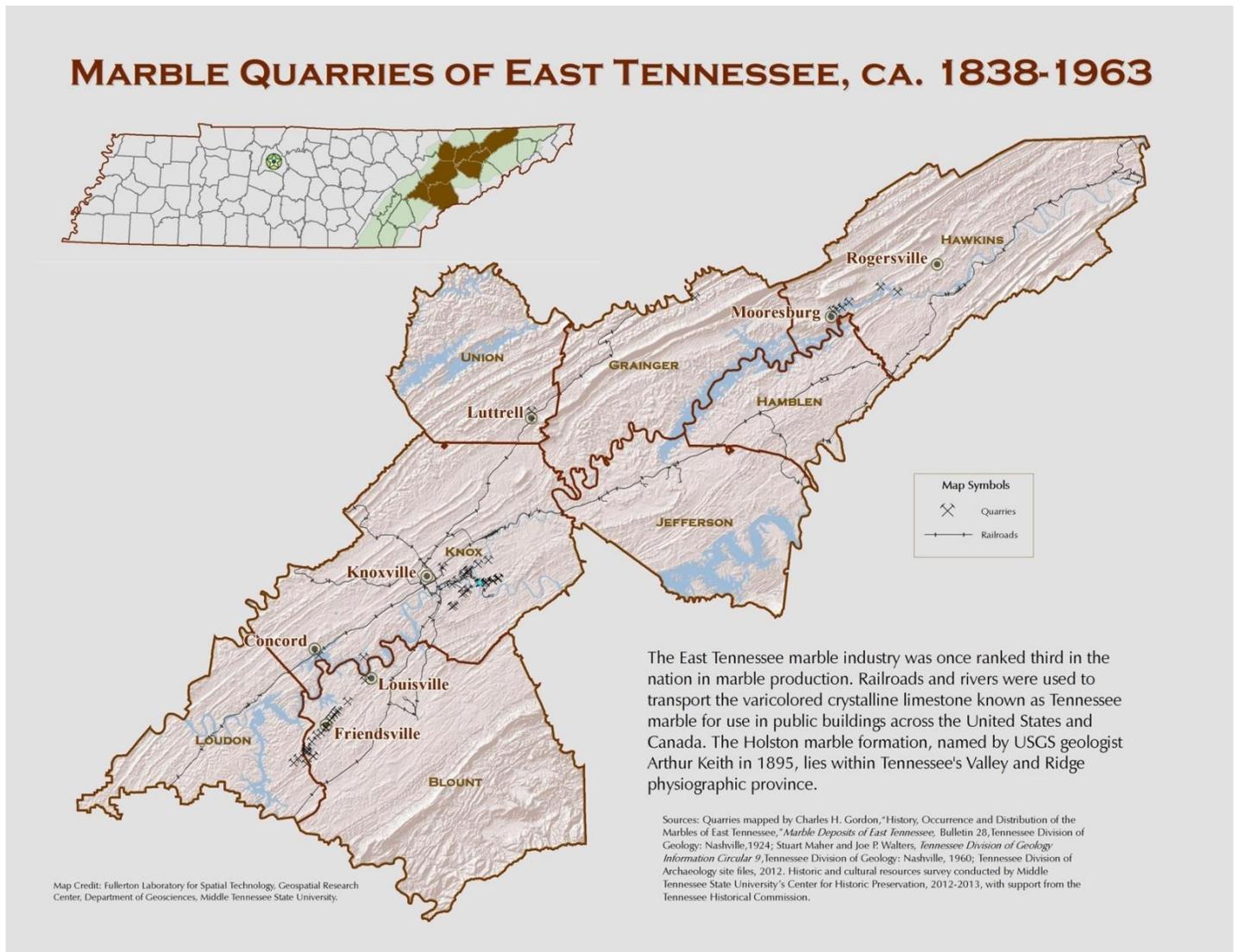


Figure 3. *Marble Quarries of East Tennessee, ca. 1838-1963*. This map represents quarry locations identified by geologists in 1924 and 1960 as lying in the Holston marble formation. Additional quarry locations were identified through geographical data gathered in 2012-2013 by Middle Tennessee State University's Center for Historic Preservation. *Map credit: Fullerton Laboratory for Spatial Technology, Geospatial Research Center, Middle Tennessee State University.*

H. Summary of Identification and Evaluation Methods

This East Tennessee Marble Industry Multiple Property Submission (MPS) was prepared by Middle Tennessee State University's Center for Historic Preservation Director Carroll Van West and Research Fellow Susan Knowles, under a contract funded by the Tennessee Historical Commission, 2012-2013. Knowles compiled preliminary research on the East Tennessee Marble Industry for her doctoral dissertation, "Of Structure and Society: Tennessee Marble in Civic Architecture at Middle Tennessee State University in 2011. This MPS is based in part on a historic architectural and cultural resources survey conducted during 2012-2013 by Carroll Van West, architectural historian, and Susan W. Knowles, public historian. The accompanying maps were created with the assistance of Zada Law, Fullerton Geospatial Laboratory, Middle Tennessee State University. All files are located at the Center for Historic Preservation, Middle Tennessee State University.

Prior to beginning fieldwork for this project, previous architectural survey work conducted by and for the Tennessee Historical Commission (THC) in Hawkins, Knox, and Blount counties was consulted and potentially related properties identified for a Study List related to the marble industry. Knox County's comprehensive architectural planning documents, many prepared by Ann K. Bennett of the Knox County Metropolitan Planning Commission, proved invaluable, as did the Blount County MPS and associated nominations prepared by Phil Thomason of Thomason & Associates of Nashville, Tennessee. Microfilmed records from a previous THC-funded architectural survey of Knox County conducted during the mid-1980s were examined to see what might have been in place at that time. THC files of previously identified sites were also consulted as was Knox Heritage's list of identified sites.

New source material was collected in field surveys of historic and architectural resources in Hawkins, Knox, and Blount counties during the months of October, November, January, February, March and April 2012-2013. Physical information gathering in the three counties of the survey area took the form of reconnaissance surveys documented by photographs and Global Positioning System (GPS) waypoint capture. To find locations of former quarries, we used historic maps, including United States Geological Survey (USGS) quadrangles, overlaid onto current landscape geography at the Fullerton Geospatial Laboratory at Middle Tennessee State University. As a working method, we combined locations, place names, and the names of individuals gleaned from historical documents and maps with a download of the National Map (USGS) containing historical names from the Geographic Name Information System (GNIS). We used GPS to confirm our findings and reconcile them with the locations of historic quarries on the National Map. With local family connections to the historic marble industry gleaned through personal inquiry, we were escorted into several former marble quarry locations now on private land in all three counties.

For background research, the publications of Tennessee State Geologists Gerard Troost (1839), James M. Safford (1855, 1869), Charles H. Gordon (1911, 1924), and Stuart W. Maher and Joe P. Walters (1960) were of vital importance. They reflect industry standards during the major eras covered by the survey (1830s, 1850s, 1920s, 1960). Not only did these men map the region in their time, noting geological formations that sometimes included place names and/or ownership, their technical knowledge provides for us an important framework for understanding major historical shifts in marble quarrying and production practices.

By geo-referencing the USGS 1921-22 maps of quarries in and around Knoxville and Friendsville (bound in with Charles H. Gordon, "Marble Deposits of East Tennessee," *Tennessee Division of Geology Bulletin 28*, 1924), to current geography, we were able to roughly pinpoint locations of many of the now closed marble quarries in Knox and Blount Counties. These maps are labeled according to who owned the quarries at the time they were visited by Gordon, who was the State Geologist at the time. An earlier map (*Vance Coffee Pill, Knoxville and Knox County*, 1895) indicated the locations of a number of named quarries. Using ArcGIS™ we were able to create a layer showing 1895 locations and overlay it for purposes of comparison to quarry names and locations in 1924. In 1960, geologists Stuart W. Maher and Joe P. Walters updated Gordon's 1924 report. They located the listed quarries and recorded them in Tennessee State Plane coordinates. In 2013, using ArcGIS™, we were able to work at a larger scale than previously, which allowed us to place many of the mentioned quarries more accurately in current geographical context. Throughout the process, changes in quarry names and ownership, even within just a few years time, proved to be one of the greatest challenges for our work.

Further information gathering came as we held public meetings to which anyone with direct knowledge of the industry was invited to come and share it with us. We photographed objects and scanned documents and photographs for research purposes. Brief personal interviews were video-documented. A database containing information on surveyed sites has been entered into templates conforming to Tennessee Historical Commission architectural inventory forms, along with thumbnail photographs and GPS coordinates. This data, which can be exported into ArcGIS, will become available electronically as part of a final map reflecting the surveyed sites.

Locating and examining property deeds, lease contracts, incorporations and corporate transactions, wills, and other instruments held in manuscript collections in the Hawkins, Knox, and Blount County Archives and Register of Deeds offices yielded confirmation of historical text references. These documents also provided insight into the complexity of—and often the veiled relationships between—parties involved in corporate business transactions around property ownership in the East Tennessee marble industry.

The final phase of the project involved the preparation of this MPS and its accompanying National Register nominations for two former marble quarries located within the boundaries of Ijams Nature Center, in Knoxville, Knox County. Determining the site boundaries, untangling property ownership, uncovering the relationship of these two quarries to Knoxville's historic marble industry, and making sense of quarry practices at sites that have been closed down for fifty years or more presented huge challenges. Because of the interconnected nature of these quarries, not only to each other but also to other marble businesses in Knox, Blount, and Union counties, we know that this research will continue to inform future historians. Perhaps it will also inspire future archaeological survey work. Several other potentially eligible properties were identified during the survey.

Hawkins County

Hawkins County, where the East Tennessee marble industry began, proved the most elusive in finding visible remains of the industry. Not only were the Hawkins County marble businesses closed down by circa 1920, many of the marble outcroppings occurred along streams and rivers that are permanently risen and widened with the creation of TVA's Cherokee Lake, which inundated some quarry areas on the Holston River. The Tennessee Division of Archaeology provided site files for several Hawkins County locations in or near the former marble areas that had already been surveyed.

Future archaeological survey work on identified, non-inundated quarry areas could yield new information about historic quarry practices.

Knox County

In Knox County, resources related to the marble industry are readily visible in certain locations, such as the Forks of the River, or Asbury, community in eastern Knox County. This is one of the oldest settled areas of the county, an area where Scots-Irish and Swiss settlers intermingled and formed mutually beneficial communities. The area remained largely agricultural until widespread mid-twentieth century industrial development. Much remains of the historic fabric in this area, which includes the Francis Alexander Ramsey House, as well as the homes of individuals once connected to the marble industry, such as Harmon Kreis and W.R. Monday, and churches and cemeteries linked to these individuals. In several locations the remains of quarrying operations are visible. Tall masts of derricks still attached to guy wires can still be seen here. On the opposite side of the Tennessee River along Riverside Drive is a large expanse of flat industrial property with mill buildings that once encompassed marble or waste lime production. Several still operating industrial sites are visible. Possible abandoned quarry lands are suggested by the wooded and overgrown rocky hills leading to Boyd's Bridge Road (access to historic bridge crossing over the Holston to the Forks of the River, which suggests historic commerce between the two sides of the river) and northward into the Holston Hills area. Holston Hills is one of several neighborhoods in the vicinity that features the use of pink marble in domestic dwellings and landscape. In South Knoxville, near Vestal, where the Candoro Marble Company mill and showroom once operated, and on the north side of Chapman Highway, neighborhood pockets also reveal the use of pink marble for domestic architecture, retaining walls, porches and patios, walkways, birdbaths, picnic tables and benches, and decorative objects. Prominent buildings in the downtown core and stately homes in the wealthy Sequoyah Hills neighborhood also reflect association with this very prosperous era of Knoxville history by their use of the marble in exterior and interior construction and detailing.

Blount County

The post-WWII homes in lakeside communities and well-tended suburban landscapes between Louisville and Friendsville in northern Blount County give little evidence, other than the road names, that the area was once home to between six and ten large working quarries. Driving between the two towns on Topside Road, one passes Light Pink Road and Quarry Hollow Road as the road follows the curve of the former Tennessee River to Friendsville, where the still visible railroad bed (tracks now removed) go through the center of town. A rough pink marble monument to the marble industry stands next to the rail bed in a small park in front of City Hall. Across the street, a late nineteenth century commercial style, two-story brick bank building attests to the town's former prominence as a business center for the area. Two working quarry operations remain in the area, one visible from Highway 321 at Friendsville and the other well hidden in a long valley accessed from Topside Road.

I. Major Bibliographical References

- Allen, William C. *History of the United States Capitol: A Chronicle of Design, Construction and Politics*. Washington, D.C.: United States Government Printing Office, 2001.
- Armstrong, R.H. "Private Journal and Jottings Down In and Out of Prairiedom: Nov. 8, 1850-Sept. 15, 1851." McClung Historical Collection/Knox County Public Library.
- Burns, Inez E. *History of Blount County, TN, 1795-1955*. 1957. Rev. ed. Nashville: Tennessee Historical Commission, 1988.
- "Capitol Construction" files. Tennessee State Library & Archives, RG 7.
- "Comptroller of the Treasury" files. Tennessee State Library and Archives, RG 61.
- Cotterill, R.S., "Southern Railroads and Western Trade, 1840-1850." *The Mississippi Valley Historical Review*, III, no. 4 (1917): 427- 441.
- Craig, John J. and Candoro Marble Company manuscript collection. McClung Historical Collection/Knox County Public Library.
- Dunaway, Wilma. *The First American Frontier: Transition to Capitalism in Southern Appalachia, 1700-1860*. Chapel Hill: University of North Carolina Press, 1996.
- Eckel, Edwin C. "Engineering Resources and Mineral Resources of the Tennessee Valley Authority Region." In *Bulletin 1: General Engineering and Geology Division*. Knoxville: Tennessee Valley Authority, 1934.
- Faulkner, Charles H. "An Early Scotch-Irish Family: The Ramsey House Archaeological Project," *The Journal of East Tennessee History*, 77 supp., 2006.
- _____. *The Ramseys at Swan Pond: The Archaeology and History of an East Tennessee Farm*. Knoxville: University of Tennessee Press, 2008.
- Ferris, Charles. "Tennessee Marble as a Building Stone," *The University of Tennessee Scientific Magazine* I, June. Knoxville: Engineering Society of the University, 1894.
- Fuller, Justin. "History of the Tennessee Coal, Iron, & Railroad Company, 1852-1907." Ph.D. diss., University of North Carolina, 1966.
- Gadski, Mary Ellen. *Tennessee State Capitol: Historic Structure Report*. Albany, NY: Mendel Mesick Cohen Waite Hall Architects, 1986.
- _____. "The Tennessee State Capitol: An Architectural History". *Tennessee Historical Quarterly* XLVII, no. 2. Nashville: Tennessee Historical Society, 1988.

Goodspeed's History of Tennessee, illustrated. 1887. Reprint. Easley, S.C.: Southern Historical Press, 1979.

Goode, James Moore. "Architecture, Politics, and Conflict: Thomas Ustick Walter and the Enlargement of the United States Capitol, 1850-1865." Ph.D. diss., George Washington University, 1995.

Gordon, Charles H. "The Marbles of Tennessee: Extract (D)." *Preliminary Papers on the Mineral Resources of Tennessee*, Bulletin 2. Nashville: State of Tennessee Geological Survey, 1911.

_____. "History, Occurrence and Distribution of the Marbles of East Tennessee" *Marble Deposits of East Tennessee*, Bulletin 28. Nashville: Tennessee Division of Geology, 1924.

Henry, George B. *Friendsville*. Charleston: Arcadia Publishing, 2011.

Jacob, Judith M. *The Washington Monument: A Technical History and Catalog of the Commemorative Stones* (Department of the Interior, National Park Service, Northeast Region, Architectural Preservation Division, 2005), 28, 161, 163. <http://www.nps.gov/wamo> accessed 9 October 2010.

Jones, John Barksdale, John Barksdale Jones III, manuscript collections. McClung Historical Collection/Knox County Public Library.

Keith, Arthur E. *Tennessee-North Carolina, Knoxville Sheet*. Washington, D.C.: U.S. Geological Survey, 1895.

Killebrew, J.B. *Tennessee: Its Agricultural and Mineral Wealth*. Nashville: Tavel, Eastman & Howell, 1874.

_____. And J.M. Safford. *Introduction to the Resources of Tennessee*. Nashville: Tavel, Eastman & Howell, 1874.

Kreis, Max. "Kreis Family History," 2013.

Kreyling, Christine. *From Post Office to Art Center: A Nashville Landmark in Transition*. Nashville: Frist Center for the Visual Arts, 2001.

Lemiski, Peter, et al. "Map of Camelot Quadrangle." Nashville: Tennessee Department of Environment and Conservation, Tennessee Division of Geology, 2004.

McAdams, Thomas N. "Knox Heritage Marble Tour, 22 May 2010."

_____. *Marble Halls: The Story of the Craigs and Candoro Marble Company*. Knoxville: Thomas N. McAdams, 2003.

McGaughey, John. "A Succinct History of the Road East Tennessee & Virginia." *Knoxville Register* 21 May 1858.

Maher, Stuart and Joe P. Walters. *Tennessee Division of Geology Information Circular 9*. Nashville: Tennessee Division of Geology, 1960.

_____. "Field Trip No. 3: Mineral Resources of Knox County, Tennessee." *Geology of Knox County, Tennessee: Bulletin 70*. Nashville: Tennessee Division of Geology: 1973.

Mellen, George F. "The Story of Marble Hall." *Knoxville Sentinel* 16 February 1907. McClung Historical Collection/Knox County Public Library.

Merrill, G.P. "The Marble Region of Knoxville, Tenn." *Stone* v. 5, no. 6. Chicago: D.H. Ranck & Co., 1892.

Monroe, Kirk. "The Industrial South: Knoxville, Tennessee" *Harper's Weekly* 7 May 1887, v.31, no. 1585.

Morgan Library papers, New-York Historical Society, Department of Prints, Photographs, and Architectural Collections, PR 042, Boxes 268, 269, 382.

Owens, Doris Woods and Kate Clabough, *Concord-Farragut*. Charleston: Arcadia, 2009.

Price, Henry R. *Hawkins County, Tennessee: A Pictorial History*. Virginia Beach: Donning, 1987.

Safford, J.M. *A Geological Reconnaissance of the State of Tennessee, 1856, being the author's First Biennial Report presented to the 31st General Assembly of Tennessee, December 1855*. Nashville: G.C. Torbett & Co., 1856.

_____. *Geological Map of the state of Tennessee/prepared with reference to the development of the mineral & agricultural resources of the state, 1855*. Nashville: J.F. Wagner's Lith. Tennessee State Library and Archives, map# 502 (also QE 165 .A14), 1854-55.

_____. *Geology of Tennessee* (Nashville: S.C. Mercer, 1869)

Teng, Hai-Chuan. "Marble Deposits and the Marble Industry of the Knoxville Area." Master's thesis, University of Tennessee, 1948.

Thomason, Philip. *Historic and Architectural Resources of Blount County, Tennessee*. Multiple Property Submission, NRHP, 6/16/1989.

Thompson Brothers Photographers, Glass Plate negative collection. McClung Historical Collection/Knox County Public Library.

Troost, Gerard. "Address to the General Assembly." *Transylvania Journal of Medicine and the Associate Sciences* 4 (1831): 491-507.

_____. *Fourth Geological Report to the Twenty-Second General Assembly of the State of Tennessee*. Nashville: S. Nye and Co., 1837.

_____. *Geological Map of the State of Tennessee* by G. Troost, Geologist of the State, P. S. Duval, Lith. Phila. 1839. Tennessee State Library and Archives. Two sections: TEVA 19c Agricultural Resources, #27 [33764]; TEVA, 19th c Agricultural Resources #58 [33763].

_____. *American Journal of Science and Arts* (2) 8 (1849): 419-420.

Trousdale, William, Governor of Tennessee, papers. Tennessee State Library & Archives.

United States Bureau of the Census, Washington, D.C. *Seventh Census: Manufactures* (1850); *Tenth Census* (1880).

United States Centennial Commission. *International Exhibition 1876 Official Catalogue*. Philadelphia: John R. Nagle & Co, 1876.

Walls, James G(ray). "Holston Marble at Asbury, Tennessee." Master's thesis, University of Tennessee, 1930.

_____. "The Holston Marble at Asbury, Tennessee" *Journal of the Tennessee Academy of Science* VIII, 1933.

_____. "The Dolly Varden Phase of the Holston Marble." Ph.D. diss., University of North Carolina, 1946.

Walters, Joe Parks. "The Marble Industry of the Knoxville Area." Master's thesis, University of Tennessee, 1958.

"Washington Monument" folder. Tennessee State Library & Archives.

Welch, Danette. "Biographical Profile of William Spies Mead." McClung Historical Collection/Knox County Public Library.

West, Carroll Van. "Marble Springs." *Tennessee Encyclopedia of History and Culture*. Nashville Tennessee Historical Society, 1998.

Wilson, Richard Guy. *McKim, Mead & White, Architects*. New York: Rizzoli, 1983.

Wooldridge, J. "Manufacturing Interests." In *Standard History of Knoxville*, edited by William Rule. 1900. Reprint, with index by Steve Cotham, McClung Historical Collection, Knox County Public Library. Knoxville: Charles A. Reeves, Jr., 2009.

World's Columbian Exposition 1893 Official Catalogue, M.P. Handy, ed. Chicago: W.B. Conkey & Company, 1893.