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White Stone Quarry of Bowling Green, KY

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"Stone of the Most Beautiful Kind":
The White Stone Quarry of Bowling Green

by Christy Spurlock Smith

Some of America's most beautiful churches, cathedrals, libraries, and government buildings were built of "Bowling Green stone"—a trademark designated to the White Stone Quarry of Bowling Green, Kentucky.¹ The rise and fall of this quarry from the 1830s to 1930 reflects the changing American economy during this same period. John Howarth, a citizen of Bowling Green, first opened the stone quarry, which was located approximately five miles southwest of the city.² Later known as the White Stone Quarry, the enterprise provided employment for many area citizens and made Bowling Green stone famous throughout Kentucky and in other areas of the United States.

Howarth operated the quarry for twenty-three years, hauling stone into the city by ox-drawn cart over a crude country road. He sold the quarry in 1856 to William Carnes and Hugh E. Smith, two Bowling Green businessmen. By March 1860, Carnes sold his interest to Smith, just as the foundation for America's dramatic industrial growth was laid.³

The author teaches history and English at Glasgow City High School. She acknowledges with gratitude the advice and encouragement extended by Professor Helen B. Crocker, formerly of Western Kentucky University. The author also wishes to thank her friend and neighbor Roscoe Alford, now in his eighties, who began working at the White Stone Quarry as a youth. Without his assistance this essay could not have been written.

¹Deed Bk. 133, 27 August 1920, 415; Earl Rigelwood interview, 31 January 1984; Charles Henry Richardson, The Building Stones of Kentucky (Frankfort, Ky., 1923), 246-47. There were several quarries in Warren County around the turn of the century; this record cites "Bowling Green Stone" as a property designated to the White Stone Quarry. Earl Rigelwood was a shipping clerk for the Southern Cut Stone Co. in the late 1920s. All interviews were conducted by the author, and copies are in her possession. All deed books referred to herein are Warren County, Kentucky, deed books, located in the office of the county clerk in Bowling Green. Bowling Green newspapers and White Stone company records of this era, apparently, no longer exist.
²Deed Bk. 15, Wm. Ellis to Jon. Howarth, 27 November 1833, 289.
³Ibid.; Description of the White Stone of Bowlinggreen [sic], Ky. (Louisville, 1878), 5, Kentucky Library, Bowling Green, Ky.; Deed Bk. 28, Wm. and Louisa Carnes to Hugh F. Smith, 5 March 1860, 520-21.
In that era the country was tied together by railroads, telegraph, and electricity. Americans witnessed the dawning of the machine age and the emerging petroleum industry. From 1860 to 1914, America became the most powerful industrial nation in the world, as its manufacturing capacity multiplied its 1860 capacity twelvefold. This remarkable industrial development was due in part to the 1864 contract labor law which Congress passed specifically to encourage immigration to this country. A number of new citizens of various ethnic backgrounds found work as either artisans or skilled workmen in the White Stone Quarry. Their skilled labor and the high quality of the local stone gave Bowling Green a national reputation in business circles.

A fine 1868 example of the excellent workmanship was the Warren County courthouse. The various sections of the four massive columns and their Corinthian capitals were quarried, shaped, and carved at the White Stone Quarry and hauled into the city by ox-cart. The stones were loaded onto the carts by wooden derricks (the equivalent of the modern crane), which had a central support structure called the "mast" and an arm for lifting called the "boom." These derricks had geared wenchses—a big cogwheel and a little cogwheel, with two large cranks on either side. Two powerful men would work from either side to load the stones—"twist and wind them up"—onto the carts. If the carts mired or broke down en route to their destination, the stones simply had to be left at that point, as there were no means to reload the heavy stones once they were away from the derrick. On at least three occasions, ox-drawn carts either mired or broke down en route to the courthouse, and the beautifully finished stones were left lying at these points, while other stones were quarried and shaped to replace them. One of the finished stones

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6 Ibid., 401; Mitchell and Mitchell, *American Economic History*, 713.
7 *Description of the White Stone*, 7.
8 Arthur Rigelwood interview, 17 February 1984. The Rigelwood family was associated with White Stone Quarry from ca. 1870 to 1911.
lay on the Western Kentucky University campus, near the old president’s home (now the alumni building), for many years before it was eventually removed by modern heavy machinery.9

Probably the earliest building in Bowling Green built of the quarry stone was the old Citizen’s National Bank, located on Park Row on the downtown square. This building, originally the Branch Bank of Kentucky, was in place by 1839. After changing hands several times, the building was remodeled in 1920, and a newly designed Greek Revival front, again carved from Bowling Green stone, was added.10 Unfortunately, in 1984 this landmark building caught fire and burned; however, when the fire was out and the building was completely gutted, the white oolite limestone front of the building remained intact.11 This fact would have come as no surprise to J. Lawrence Smith, president of the White Stone Quarry Company in the 1870s, who, at that time, was promoting the Bowling Green stone’s resistance to fire. A promotional company bulletin published in 1878 related the heat test to which the stone had been subjected:

After the great fire at Chicago, attention was drawn to the alternate action of fire and water on the stones used in the buildings of that city. . . . This led to the test of the White Stone in comparison with the other [building] stones . . . . The experiments . . . were restricted to heating the stone on the surface to a full redness . . . and then plunging it suddenly into cold water.

Thus treated, the Ohio Buena Vista Freestone (a handsome and much admired building stone) cracked

9Ibid.; Dr. Kelly Thompson interview, 7 March 1984; Owen Lawson interview, 19 February 1984; Margie Helm to Charles A. Pressler, 6 May 1936, Bowling Green collection, vertical files, Kentucky Library. Dr. Kelly Thompson was a former president of Western Kentucky University. Owen Lawson was a former physical plant supervisor for W.K.U. Margie Helm’s letter states that the carvers of these capitals were Charles Ott, Pierce Malone, and Sam Johnson and that William Backus dressed down the columns in 1868 and redid them for the finishing touches.

10John P. Hines interview, 5 December 1984; Description of the White Stone, 14. Hines was former president of Bowling Green’s Citizens National Bank.

11Hunter Reiger, “Fire Guts Executive Building,” Bowling Green (Ky.) Park City Daily News, 19 February 1984. The stone is described as “oolitic” because it is composed of concretions resembling the roe of fish.
Employees of the quarry pause after a hard day of "breaking the stone out."

perpendicular to the surface and laterally. . . .

The Joliet Limestone, used so largely in Chicago, cracked in all directions—the Bowling green [sic] White Stone showed not the slightest crack, even when examined by a magnifying glass. . . .

Another superior feature of the Bowling Green stone over other stone being quarried and used at the time was its strength. The Smithsonian Institution ran tests on the stone in the spring of 1874 and reported its resistance to crushing as three thousand pounds to the square inch. Whereas the oolitic limestone of Bedford, Indiana, had "to be set in the wall in such a position that the pressure of supernatant rock is at right angles to the plane of bedding," the Bowling Green stone

12Description of the White Stone, 9-10.
13Joseph Henry to Dr. Jay Lawrence Smith, 4 April 1874, in Description of the White Stone, 14.
could be set in a wall in any position.\textsuperscript{14}

The Bowling Green stone possessed yet another trait which made it an architect's and stonecutter's dream-stone. The stone was said to split so uniformly that "a curved surface of 100 degrees may be split without risk of the line of fracture crossing the curve."\textsuperscript{15} This quality was due to the high oil content of the stone, which aided in its cutting, shaping, and carving. As the oil evaporated upon exposure to air, the stone bleached white, and like good whiskey, it improved, or hardened, with age.\textsuperscript{16}

A legislative document of the late 1880s described the oolitic limestone bed of Warren County as covering an area of "more than 50 miles."\textsuperscript{17} During this same period, a company advertisement presented a rather picturesque description of the location of the Bowling Green stone—the same area which had, a few years earlier, been referred to locally as the "Ellis Knobs":

On approaching Bowling Green [sic] the visitor observes immediately the tall hill which rises abruptly back of the city.... Its dark, shadowy surface throws a gloom over the smiling country beneath and around it. Within this hill lies the material for future cities.\textsuperscript{18}

Thus, by the year 1870, the Bowling Green stone had a reputation as a valuable marketable product. That it was being put to widespread use locally is indicated in an early history of the state: "No city of its size surpasses it [Bowling Green] in handsome residences, business blocks, churches and school buildings. Its courthouse is among the handsomest in the State."\textsuperscript{19} The stone appeared to be plentiful, even thought by some to be inexhaustible, and the only obstacle in developing the industry further was in obtaining a means to

\textsuperscript{14}Richardson, \textit{Building Stones of Kentucky}, 247.
\textsuperscript{15}\textit{Description of the White Stone}, 11.
\textsuperscript{17}Legislative document, Warren County, 1898-1899, Warren County collection, vertical files, Kentucky Library.
\textsuperscript{18}\textit{Description of the White Stone}, 5.
transport the stone to distant markets. This problem was solved by America's rapidly expanding railroad system.

By the 1870s, with the erection of two railroad bridges across the Ohio River and the completion of other state and national rail systems, Bowling Green was tied to the national system, giving the area access to markets such as St. Louis, Chicago, and those in the East.\textsuperscript{20} Perhaps these developments were the inspiration for the Smith family's expanding their quarry holdings and signing a thirty-year lease with Owen Macdonald & Company—a lease which required this company to "build or cause to be built" a railroad from the quarry to the Memphis branch track of the Louisville & Nashville Railroad and "commence operations in said quarry within three years from this date" [January 22, 1870].\textsuperscript{21} The Smiths were to receive one dollar per train carload of stone removed from the quarry. This agreement was further explained to mean "one dollar for each hundred [cubic] feet for all stone that is suitable for cutting or dressing during the term of this lease."\textsuperscript{22} Within the following two years, Owen McDonald & Company transferred the Smith lease to a large English conglomerate, which in turn transferred the lease to its subsidiary, White Stone Quarry Company.\textsuperscript{23}

In 1871, this company commenced negotiations with local landowners for the right-of-way to lay the track, and Harry Rigelwood, a former railroad employee in England, handled the complicated and tedious arrangements for the company.\textsuperscript{24} Lacking the power of eminent domain and the condemnatory power of national or state railroads, the company had to deal with landowners individually and with their particular stipulations.

The first deed for the Quarry railroad right-of-way was recorded on September 13, 1871. On this date, John F. Smith

\textsuperscript{20}Ibid., 529-33.
\textsuperscript{21}Deed Bk. 35, Lease—Lydia A. & Hugh F. Smith and B. C. Sanders to Owen Macdonald and Co., January 1870, 439-41. Sanders held a small interest in part of the land involved in this lease.
\textsuperscript{22}Ibid.
\textsuperscript{23}Deed Bk. 54, Hugh F. Smith to Sallie Smith, 10 March 1882, 467; Arthur Rigelwood interview.
\textsuperscript{24}Arthur Rigelwood interview; Earl Rigelwood interview.
and wife, Jesse E. Sweeney and wife, and John F. South, Jr.,
sold three acres, fronting the Russellville Road, to the White
Stone Company for $942.14. The company agreed to build
three cattle guards "at points to be designated by said Sweeney"
and to pay to Sweeney "all damages that he may sustain by
reason of stock maimed or killed or by fences burnt in oper-
ating said company's railroad across his premises."25 This
deed and all others dealing with railroad right-of-way give a
detailed description of the land being bought and the particu-
lar stipulations made by the various concerned landowners.
The White Stone Company paid a high price for the right-of-
way, as the average value of land in Warren County one year
prior to these transactions was only $13.87 per acre.26 Other
residents who sold land to the White Stone Company for
railroad right-of-way received, on an average, $60 per acre.27
Right-of-way transactions were concluded by mid-October
1871; construction of the railroad began the following month,
and the four miles of bed and track were completed in three
months.28

By February 1872, with the track in place, the company
began turning out stone on a much larger scale, improving
both the employment and the economy of the community.
The company priced the stone competitively, "expecting by
large sales to make up for small profits."29 Due to the su-
priority of the stone, the company's plan worked. By 1872,
stone from White Stone Quarry was being used in Louisville.30
By 1878, ten cranes were being used at the quarry, which was
being worked with great activity; stone was being shipped to
such destinations as Chicago, Memphis, Nashville, and St.

25Deed Bk. 38, John F. & Martha South, Jessie E. & Mary B. Sweeney, and John F.
26Jesse R. Runner, "Historical Sketch of Warren County," n.d., Warren County
collection, vertical files, Kentucky Library.
27John C. Gerard Deed to White Stone Quarry Co., 13 September 1871, 36-37;
Oliver & Mary E. Carson Deed to White Stone Quarry Co., 13 September 1871, 38-39;
Henry Potter Deed to White Stone Quarry Co., 13 September 1871, 207; James Haden
Deed to White Stone Quarry Co., 26 September 1871, 39-40; Edmund G. Jones Deed to
White Stone Quarry Co., 14 October 1871, 41-42, all in Deed Bk. 39.
28Description of the White Stone, 7-8.
29Ibid., 12-13.
30H. P. Bradshaw to J. Lawrence Smith, 9 July 1872, in Ibid., 13.
Louis. The company expected to open up markets in Cincinnati and New York in the near future.\textsuperscript{31} Although no records of the company's profits in the early years are available, they must have been rather substantial. In 1872, Mr. and Mrs. Hugh Smith, who were to receive $1.00 per carload of stone, were able to secure almost three thousand dollars, using their quarry lease as collateral.\textsuperscript{32}

The White Stone Quarry's growth reflected the bright American national economic picture during the 1870s and 1880s. With the exceptions of a major depression in 1873 and a minor one in 1884, times were booming. The years following 1880 witnessed the ever-expanding industrialization of the post-Reconstruction South as cotton, iron, steel, tobacco, and furniture became major American industries.\textsuperscript{33} Bowling Green, during the 1870s and 1880s, was "a live and progressive little city" of eight thousand people with a modern water system. Of its various enterprises, Bowling Green was especially proud of its city park with "a splendid fountain" fashioned from local white stone.\textsuperscript{34}

In this bright and progressive economic atmosphere, the quarry received a major addition—a "steam stone saw mill," erected for the purpose of sawing and dressing stone. This mill, erected on the quarry grounds around the year 1880, served White Stone Quarry until 1920.\textsuperscript{35} Here, the stoncutters shaped and formed the stone to fill the various orders, while the stonecarvers cut the ornate and intricate designs which are still admired in many structures today.

Even though the quarry changed operators, it continued to be known locally as the White Stone Quarry, and a small company-owned village sprang up around it. The 1880 Federal Census reflects the diverse nationality of the village: seven of the nine stoncutters listed are either first- or second-

\textsuperscript{31}Ibid., 8.
\textsuperscript{32}Deed Bk. 54, Hugh Smith to Sallie Smith, 10 March 1882, 467. This record recounts the dates and amounts of mortgages.
\textsuperscript{33}Mitchell and Mitchell, American Economic History, 612, 732-41.
\textsuperscript{34}Bowling Green Daily Times Journal, 9 March 1914. This article summarizes a local newspaper article from 5 July 1879.
\textsuperscript{35}Deed Bk. 77, White Stone Quarry to Belknap & Dumesnil, 9 April 1879, 469-70.
A "steam stone saw mill" was erected on the quarry grounds about 1880. "Here, the stonecutters shaped and formed the stone to fill the various orders, while the stonemasons cut the ornate and intricate designs which are still admired in many structures today."

generation Americans. Robert A. Fisher, whose name appears on this census, was to cause quite a stir when he returned to Bowling Green thirty years later as a famous actor and comedian. Following his successful performance at the Bowling Green Opera House in 1910, he recounted his days of working at the White Stone Quarry as a stonemason: "the days when the brawny Joe Spaninger was foreman, and Ben Weingardner was the central figure." The robust Fisher fondly remembered their "contests of physical endurance."

Even during the nationwide business depression of 1873, the stone company seems to have prospered adequately. One reason, perhaps, was the availability of cheap labor. Blacks made up 69 percent of the actual "laboring" force, suggesting the typical low wages and harsh working conditions for south-

36Bowling Green Messenger, 6 March 1910.
ern blacks during Reconstruction. The stone company’s optimism about its continued growth is reflected in an 1884 deed—a purchase of 117 additional acres, adjoining the quarry property, at a cost of $2,358.69. The amount of land purchased and the speediness of the payment—two years—seem to indicate a viable and sound company. By 1888, the White Stone Quarry appeared so prosperous that Belknap & Dumesnil Stone Company—the operators at that time—paid the Smith family $9,500 to obtain title to 241 acres of quarry lands and the Smith lease.

Soon, however, the company began to decline. The period from 1886 to 1900 saw the rise of labor movements in America and the first attempts at government regulation of business practices. Whether or not trust laws and labor unrest seriously affected the Louisville-based stone company, Belknap & Dumesnil felt the repercussions of a rapidly changing industrial society, especially with the approaching depression of 1893. As early as January 1890, a deed of trust was demanded of the Belknap & Dumesnil Stone Company in order to secure the payment of bonds. The following year, a lawsuit seeking to recover this debt resulted in the White Stone Quarry’s being sold at the “Louisville Court House door” on June 27, 1892. The quarry was purchased by its creditors at a price of thirty-five thousand dollars—less than its appraised value—and conveyed to a corporation operating under the title of Bowling Green Stone Company.

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37 Tenth Census of the United States: 1880 Warren County, Kentucky, 93-114.
38 Deed Bk. 58, E.G. and Melissa Jones to Belknap & Dumesnil Stone Co., 1884, 286-87.
42 Deed Bk. 77, Deed of Trust—Belknap & Dumesnil Stone Co. “to secure the payment of certain bonds” to Mechanics Savings Bank & Trust Co., 1 January 1890, 467.
43 Deed Bk. 77, 19 December 1892, 466, 470-72, 490-503. This record states that on 24 February 1891, J.M. Cobb filed Equity Suit #4258 in the Louisville Law & Equity Court against the Stone Co. and afterwards against the Mechanics Trust Co. The court ruled White Stone Quarry was the property of Mechanics Trust Company. Creditors were Fourth National Bank of Louisville, Falls City Bank of Louisville, Warren Deposit
In this undated photograph, quarry employees stand before company-built housing.

The national depression of 1893, then, dealt a severe blow to the industry at White Stone Quarry. Even though the Bowling Green stone was awarded a gold medal at the 1893 World’s Columbian Exposition in Chicago, it appears the largest demand for the stone from the mid-1890s was for use in curbing.44 One indication that a fair amount of stone was being quarried is reflected in the fact that the L&N Railroad made repairs and renewals to the White Stone railroad track between 1894 and 1897.45 However, by June 1900, the Bowling Green Stone Company was declared insolvent by the Warren County Court and the quarry was taken over, in accordance with a court order, by the Columbia Finance & Trust Co. of Louisville, a company which would continue to finance the various corporations which operated the White Stone Quarry over the next twenty years. This deed of conveyance revealed the tremendous investment on White Stone Quarry Hill as of the year 1900: “plants, railroad, buildings, machinery, tools,
derricks, houses, tenements, stores, supplies, mills. All lay idle for almost a year as the Columbia Finance & Trust Company sought a buyer. Only six months prior to the closing of the quarry, an Evansville, Indiana, newspaper extolled the virtues of both the oolitic limestone in Warren County and what would appear to be a sound and thriving industry:

Bowling Green [October 1899]: Located near this place are several stone quarries of rare excellence. From two of them is shipped white building stone of the most beautiful kind, and it finds ready market everywhere and can be seen in houses from New York to Texas. The curbing and flagging stone is also shipped in large quantities and is without limit. Nevertheless, in 1900, the Warren County stone quarries were sitting idle. The census for that year shows only three men employed in quarrying, one of them a part-time farmer.

Two factors played an important role in the White Stone Quarry industry’s picture at this point. First, all the easily accessible stone had been quarried. As the ledges of good building stone reached deeper into the hill, many more man-hours were required to remove the overhead of earth, rock, and debris, thus cutting deeply into the company’s profits. Second, the very pronoun attitude of the working man became evident as more American laborers became organized.

The late Marie (Ayles) McGinnis (1898-1989), whose father began working at White Stone Quarry before she was of school age, stated, in 1984, that she could remember her father’s attending the quarry workers’ union meetings at the Stonecutters’ Hall, a twenty-by-thirty-foot building on company property. She also recalled a troublesome night in the early 1900s when a company house was burned during a strike and three women—wives of company men—paid her

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*Deed Bk. 91, Master Commissioner’s Sale—Bowling Green Stone Co. to Columbia Finance & Trust Co., 12 June 1900, 526-31.
*Evansville (Ind.) Courier, 1 October 1899.
*Roscoe Alford interview, 15 February 1984. Roscoe worked at White Stone Quarry from 1923 until it closed. He also worked at the nearby Keystone Quarry.
mother a visit. The women had been sent to see if her father was at home. Every employee, it seems, was suspected in the arson. The following day, the company men brought bloodhounds onto the quarry property. When they took the dogs to the pump-station where her father was firing the boiler, “he patted them”—to emphasize his innocence.50

The stoncutters were unionized at an even earlier date than were the quarry workers. George Thomas Rigelwood, a second-generation Warren County stoncutter, went into the trade of stoncutting in the year 1880 and joined a union at that time. As early as 1901, union stoncutters carried their bylaws book on their persons, as it could be used for identification purposes and for collateral in time of need. For example, the stoncutter had many tools, which he highly prized and kept in a wooden chest. Often, when he heard of work somewhere, he shipped his chest of tools by railroad and then “rode the rails”—“hoboed”—to the work area. If he was lucky, he found a place to room and board and went to work shortly. However, since communication was unreliable at the time, the stoncutter often arrived at the worksite only to find that all the jobs had been filled or that a “non-union shop” was running the operation. To help the stoncutter in such a situation and, especially, to encourage him not to work for a nonunion shop, the union lent him up to $40 “on his book” to ship his tools back home.51

Even though the American economy, including that of the Bowling Green area, prospered at the turn of the century, the new labor unions and their higher wage scale were making it increasingly difficult for the White Stone Quarry to make an adequate profit.52 After the quarry remained idle for a nine-month period, arrangements were made for the Bedford-Bowling Green Stone Company, headed by J.E. Pitts, to purchase the large quarry complex.53 The fact that the White

50Marie (Ayles) McGinnis interview, 14 February 1984. Marie’s father, William Ayles, went to work for White Stone Quarry ca. 1904. Marie lived near the quarry the remainder of her life.
51Arthur Rigelwood interview, Stonecutter’s International Bylaws (1901).
53Deed Bk. 93 (1901) 54; Deed Bk. 98 (1903), 331-33.
Stone Quarry had been a sporadically producing operation was emphasized in the rather hesitant agreement which Pitts managed to arrange with the L&N Railroad: the quarry's railroad would be kept in repair only as long as the amount of stone which L&N transported made it profitable to do so. This hesitancy proved to be justified, for in one year's time the Bedford-Bowling Green Stone Company was forced to extend its mortgage and, shortly thereafter, sought a buyer for the now three-hundred-acre quarry complex.

It was 1905 before a new corporation took over the White Stone Quarry. The Bowling Green White Stone Company (headquartered in Delaware, with offices in Louisville) paid $105,000 for the quarry operation, giving the Bedford-Bowling Green company $30,000 and assuming a $75,000 mortgage. The newly formed company lost little time in moving the big derricks to a new area on the quarry lands where the stone was nearer the surface. They then invited the Newsome Crushed Stone & Quarry Company, of Knoxville, Tennessee, onto the quarry site and made a ten-year agreement with this company to begin removing the overburden of rough rock. The Newsome Company, which erected a large rock crusher and possibly a lime kiln, was given use of the railroad and a good supply of water for thirty dollars per month. The Bowling Green White Stone Company also made available six of their rental houses for Newsome's employees. This help with the overburden of rough rock, which could be crushed and used in building road and railroad beds, proved to be productive, as several people in Warren County today can recall their fathers going to work at White Stone Quarry.

54Deed Bk. 93 (1901), 53-54.
55Deed Bk. 96, Option to Benjamin M. Bruce of Bowling Green and George L. Roberts of Port Huron, Michigan, to purchase White Stone Quarry, 25 August 1903, 176; Deed Bk. 98, Loan of $10,000 from Columbus Trust Co. to the Stone Co., 19 April 1902, 331-33.
56Deed Bk. 98, Bedford-Bowling Green Stone Co. to Bowling Green White Stone Co., 26 January 1905, 383-91. In order to put the purchase price in perspective, one might consider that $676 was the average annual wage for the American working man at this time ("Wage Scale," World Book Encyclopedia (Chicago, 1963), 19:3).
during this period when George Thomas Rigelwood was general foreman.

Also during this period (1905-6), a rather modern water “pumping station” was installed for use by the quarry. Near the cave-like entrance to a large underground creek, just south of Quarry Hill, the stone company built a shed which housed a large steam boiler. They installed a pipeline down to the stream and, using steam power, created their own water system—pumping the water to the top of Quarry Hill, where it was stored in a large tank made of wooden staves. Thus, by gravity, water could be supplied anywhere in the quarry. There was also a stone reservoir near the pumping-station, where people in the community could obtain water by turning a spigot.

Because major orders for stone have traditionally come from contracts for the construction of government buildings, large banks, hotels, cathedrals, and churches, the success of the stone industry has been closely tied to a healthy national economy. However, when the national depression of 1907 swept the nation, a two-year backlog of orders for the famed White Stone kept the economy of the little White Stone community fairly stable and the citizens went about their usual activities. The men worked ten-hour days, six days a week, with Sunday reserved as “church day.” In addition to the two Baptist churches in the community (white and black), religious services were also conducted at the Stonecutters’ Hall. This assemblage was “union” (nondenominational) and various preachers led services there. Since the hall was located at the foot of Quarry Hill near a big spring, the spring was often used for baptismal ceremonies. Even in the winter months, the ice was broken and the ceremonies were conducted. The company store, which sat on Quarry Hill, sold groceries, fabric, clothing, and light hardware—much the same as a

60Greenleaf, American Economic Development Since 1860, 16; Edna (Ayles) Huffines interview, 6 November 1984; Marie (Ayles) McGinnis interview, 14 February 1984. Edna Ayles Huffines is a sister to the late Marie (Ayles) McGinnis; see note 50.
among the students captured in this photograph are ben weininger (front center) and nathan hudson (second row, third from left).
general store. The employees of the quarry could “run accounts” there (buy on credit). A one-room country school sat on the left side of what is now Blue Level Road, about fifty yards from the quarry road. Horses, carriages, wagons or buggies were still the major means of transportation; however, the men who lived in the large boarding house on Quarry Hill also had a “railbike,” a three-wheeled bicycle which could be ridden on the railroad. This provided a quick means of travel from the quarry into Bowling Green on a hot summer night when the men might become “a little thirsty.”

By early 1909, the Bowling Green White Stone Company had “worked out” the stone for which it had orders and began to lay off its employees. With the economy in such a depressed state, the company could not meet its mortgage payment on the quarry enterprise, and once again, in April 1910, the White Stone Quarry was sold at public auction. The Columbia Trust Company (formerly known as Columbia Finance & Trust Company), holder of the mortgage, bid the sale in at $33,334 and immediately transferred their bid to a newly formed company which would operate the White Stone Quarry for the next ten years—Bowling Green White Stone Company of Kentucky. During the decade of World War I (1910-20), the United States became the world’s industrial giant and the White Stone quarry prospered. It was during the years 1911-14 that the stone for the beautiful St. Thomas Church in New York City was quarried at the White Stone site. Also, from this site in the year 1911 came the stone for the eight commanding Grecian-styled columns of Van Meter Hall on the Western Kentucky University campus. The stately First Baptist Church (or “White Temple,” as it was first named) in Bowling Green was erected with stone from this quarry in

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61See Marie (Ayles) McGinnis interview.
62Arthur Rigelwood interview.
63Edna Huffines interview; Marie McGinnis interview, 2 December 1984.
64Deed Bk. 108, Deed of Trust to Bowling Green White Stone Co. of Kentucky, 4 April 1910, 123-39; Deed Bk. 108, Deed of Release, Columbia Trust Co. to Bowling Green White Stone Co. of Kentucky, 6 July 1910, 392-93.
65Faulkner, American Economic History, 679.
66Earl Rigelwood interview; New York The Wonder City (New York, 1918), 60.
"A one-room country school sat on the left side of what is now Blue Level Road, about fifty yards from the quarry road."

1913. In 1914, five major stone companies operating in Warren County began to merge. First, Tegart Stone Company purchased the Victoria Limestone Company, thus obtaining ownership of a stone-sawing mill located on Church Street. The following year the Bowling Green Quarries Company and the Green River Quarries Company merged to form Bowling Green & Green River Quarries Company. This firm, in early 1917, purchased the aforementioned Tegart Stone Company. By spring 1920, the stockholders of the Bowling Green &

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Helen Thomas interview, 19 February 1984. The late Mrs. Thomas, a local historian, attended the dedication service for this church. In October 1992, the church was ravaged by fire. The white stone was not damaged but has since been demolished to make room for a new building.

Deed Bk. 115, Master Commissioner's Sale—to Jno. F. Tegart, 25 May 1914, 108. This document mentions the stone mill on Church Street.

Deed Bk. 117, Samuel Pickles to Bowling Green & Green River Quarries Co., 2 October 1915, 106-7; Deed Bk. 119, Jno. F. Tegart to Bowling Green & Green River Quarries Co., 29 January 1917, 438-39. This deed conveyed "the stone cutting and sawing mill located on Church Street . . . formerly known as the plant of the Victoria Limestone Co."
Green River Quarries Company had obtained all the capital stock in the Bowling Green White Stone Company of Kentucky, thus acquiring ownership of the White Stone Quarry and the large mill atop Quarry Hill.\(^70\) Shortly thereafter, the Bowling Green & Green River Quarries Company began conducting business under the name of Bowling Green Quarries Company, with William C. Almstedt serving as president.\(^71\) The Almstedt family of Louisville were major stockholders in this company and would prove to be good custodians of the White Stone Quarry over the next decade. Under their leadership the company created additional revenue by selling some company lands and leasing oil and gas rights to others. They expanded the rail service track at their mill on Church Street and moved the total milling operation to that location.\(^72\)

By the early 1920s, this mill was “the largest mill of its kind south of the Ohio River”\(^73\) and was equipped “to meet the requirements of the most discriminating trade.”\(^74\)

The 1920s was a flourishing time for the White Stone Quarry. During this period, a crew of approximately one hundred men was employed year-round. They spent the winter months clearing debris over a new area from which stone would be cut the following spring.\(^75\) Since the quarry machinery was still powered by steam and gasoline engines, two large “powerhouses” were located on the quarry grounds—one housing the gasoline engines which supplied power for the big derricks, the other housing a huge steam boiler and engine which supplied the power to meet all other needs of the quarry. The workday at the quarry ran from 6:30 a.m. to 5:00 p.m. At noon, a big steam whistle sounded,

\(^70\)Deed Bk. 133, Resolution—stockholders of Bowling Green White Stone Co., 27 August 1920, 409-16.
\(^71\)Deed Bk. 141, Bowling Green Quarries Co. to Kentucky Rock Asphalt Co., 1 January 1921, 429.
\(^72\)Deed Bk. 135, Lease, 23 April 1921, 174-75; Deed Bk. 141, 1 January 1921, 5 February 1921, 68-69, Lease, 29 August 1921, 429; Deed Bk. 147, 21 April 1922, 386-88. This 1922 document was an agreement with L&N Railroad to extend track.
\(^74\)Richardson, Building Stones of Kentucky, 246.
\(^75\)Roscoe Alford interviews, 4 February, 6 December 1984.
The 1920s was a flourishing time for the White Stone Quarry. During this period, a crew of approximately one hundred men was employed year-round. A crew of approximately one hundred men was employed year-round. During this time.

County Roscommon, Ireland
signaling that the men could take a thirty-minute lunch break. The men worked six days one week and five and one-half days on alternate weeks for a wage of thirty-five to forty cents per hour, with the men running machinery earning the higher wage. These were considered good wages for the time.\textsuperscript{76}

In the 1920s, the White Stone Quarry still possessed a good bed of building stone, averaging twenty feet in depth. The first step in quarrying the stone was to remove all the earth, rough rock, and debris from overhead. This was done by means of dynamite. Sometimes the rough rock was put through a crusher and sold to railroad companies or to road contractors to build road bedding. If there were no orders, the scrap rock was loaded into the "traveler" and transported out of the way. The traveler, as it was called by the quarry personnel, operated much like a chair lift. Huge wire cables were strung overhead and large boxes were attached in such a way as to move them above the entire quarry operation and over to a waiting rail car which would move the scrap rock to a dumping area. The quarry owned a small steam locomotive for this purpose as well as to move the loaded rail cars of stone.\textsuperscript{77}

When the workers reached the good stone, they cleaned an area thoroughly and positioned a small section of lightweight track (familiar in form to a railroad track) atop the stone to prepare for "the cut." A typical section of stone ledge to be cut might be fifty feet in length, approximately three feet in width, and twelve feet in depth. A steam-powered cutting machine, called a "channeler" or "wardler," was driven back and forth on the small track to cut the section of stone from the ledge. The channeler carried five drill bits clamped together to make "a gang." With each pass over the track, forward and then backward, the bits cut another two to three inches into the stone ledge until a depth of ten to twelve feet was reached. As the introduction of electricity revolutionized most machinery, so did it modernize the channeler. Electricity became

\textsuperscript{76}Roscoe Alford interview, 24 January 1984; Marie McGinnis interview, 14 February 1984.
\textsuperscript{77}Roscoe Alford interviews, 24 January, 4 February 1984; Marie McGinnis interview, 14 February 1984.
available at White Stone Quarry about 1925. An “electric wardler” was introduced there; with each pass over the track, it would make two cuts rather than the one cut of the steam-powered machines.

Once the channeler had the side of the stone ledge cut to the desired depth (usually ten to twelve feet), “the cut” had to be “split” loose across the bottom, so the ledge could be laid on its side or “turned over.” This step was called “splitting” the stone and was accomplished by means of “slips and wedges.” On the outer side of the ledge and at the same depth as the cut, a line of holes was drilled; these holes were at six-to-eight-inch intervals and were about eight inches deep. A man then walked from one end of the ledge to the other, placing “a set” of “slips and wedges” into each hole.38

A “wedge” resembled a railroad spike, except it was not quite as large, and it had a more graduated taper from end to head. It was made of steel, about eight inches in length, and was positioned into the hole between two “slips,” which were six-inch lengths of tapered half-moon shaped steel. As the wedge was driven between the slips, it caused them to spread and create tension on the stone. This process of splitting the stone was very much like splitting wood, but not all building stone would split like this. It was just another of the many attributes and virtues of the Bowling Green stone. Once the large section of stone ledge was cut loose, a derrick was used to lay it over on its side.

38Roscoe Alford interviews, 24, 30 January, 4 February 1984. All information regarding the quarry machinery and actual methods of quarrying was provided by Roscoe Alford.
The derricks used at White Stone Quarry during the 1920s were made of steel; their masts reached heights of sixty and seventy feet. Large steel cables (known as “guy wires”) were used to support the derricks—radiating “like spokes in a wagon wheel” and extending to as much as one-quarter of a mile, each anchored onto a “dead man” (a piece of steel fastened into solid rock) or around a large tree. In order to lay a ledge of stone on its side, a harness was rigged onto it and, with a tug from the derrick, it was laid onto a bed of grapefruit-size, soft stone which cushioned the fall. Receiving the full weight of the ledge, the small stones were crushed into powder, preventing the ledge from cracking on impact. A straight edge was then found on the ledge and, in accordance with the ordered size, the stone was marked off. Holes were drilled, slips and wedges placed, and the stone was split until it was the proper size. At this point of the operation, the stones would be, on an average, ten to twelve feet long, three feet wide, and three-and-a-half feet in depth. The stones were then loaded by a derrick onto the waiting rail cars and transported into town to the mill.

The operation of a huge derrick was an art in itself. The stone was hoisted by securing two large hooks called “dog-hinds” to the stone (so named because the shape is similar to a dog’s hind leg). A looped chain, containing two free-floating “dog-hinds,” was lowered from the boom of the derrick so that a worker could place each “hind” into a picked hole, about three inches deep, at either end of the stone. The “derrick operator,” who was positioned on the floor of the quarry, then signaled directions to the “powerhouse operator,” who, while watching the signals from a window, ran the engines which controlled the raising and lowering of the derricks. First, the derrick operator would relay the signal to “tighten slowly” and the powerhouse operator would lift the boom just enough so the weight of the stone would pull the slack from the chain and thereby put tension on the “dog-hinds.” Next, the derrick operator would give the signal to “lift the load slowly.” If all was going well—the “dog-hinds” appeared to have a firm hold on the stone and the slack in the chain was sufficiently taut—he would then give the signal
which meant "ready to go." At this point, the derrick could lift the stone up, turn it, load it, or do whatever needed to be done with it. Stone could be moved anywhere in the quarry by the raising and lowering of the boom on a derrick. The derrick operator could give the powerhouse operator a signal known as "the header," and the powerhouse operator would

"Tighten slowly"—thumb and forefinger together in O formation

"Lift the load slowly"—fist, rocking back & forth

"Ready to go"—forefinger pointed up and the arm fully extended

"Raise the boom straight up"—hand held to forehead (this signal was called "the header")

raise the boom straight up. The boom operated just like a modern-day crane. With this type of equipment, method, and toil, the Bowling Green Stone was quarried for some of the nation's most beautiful churches, cathedrals, libraries, government buildings, and other structures.

The quarry industry continued to flourish in Warren County throughout the 1920s.77 In December 1924, the Southern Cut Stone Company purchased White Stone Quarry, the nearby, newly opened Keystone Quarry, and the large stone-mill on Church Street in Bowling Green.80 The main stockholders, Henry Almstedt and his family, realized their company would be only as good as their laboring force. Schooling was offered in the Stonecutters' Hall. They kept the company housing in good repair, charged a reasonable rent, and offered competitive wages. There were no union problems during this period; the quarry employees and the community enjoyed a good work environment and a good social atmosphere. The future looked bright for the two quarries when, in 1929, a slackening national economy forced the Southern Cut

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77Interviews with Arthur and Earl Rigelwood and Roscoe Alford.
78Deed Bk. 155, Bowling Green Quarries Co. to Southern Cut Stone Co., 18 December 1924, 10; Deed Bk. 149, Lease—J.L. McGinnis heirs to Bowling Green Quarries Co., February 1923, 663. This leased rights to Keystone Quarry for ninety-nine years.
"The four columns of the Kentucky Building, located on the Western Kentucky University campus, stand as a fitting tribute to the last stone removed from White Stone Quarry. These columns are unique in that each is a solid piece of stone—twenty-two feet in length."

Stone Company to begin laying off its employees; one year later, the Great Depression swept the nation and both quarries closed.⁸¹

The four columns of the Kentucky Building, located on the Western Kentucky University campus, stand as a fitting tribute to the last stone removed from White Stone Quarry. These columns are unique in that each is a solid piece of stone—twenty-two feet in length. White Stone Quarry had been closed for approximately two years when the Southern

⁸¹Roscoe Alford interviews, 24 January, 3 November 1984; Earl Rigelwood interview.
Cut Stone Company received the order for four stone columns to be placed at the front portico of the newly constructed Kentucky Building—a building which was to be constructed entirely of Kentucky materials. The company called ten to twelve men back to work for the sole purpose of removing four sections of stone from which the columns would be shaped. The White Stone Quarry was chosen as the site to fill the order because the stone at this quarry was famed for its solidness.

The stone for these columns was not removed from the most recent ruins of the quarry works. Roscoe Alford, one of the men who helped to excavate these stones, explained that the quarry had been worked so deeply into the hill that it would have required too many man-hours to remove all the rock and debris, perhaps fifty feet or more, which covered the good stone. Consequently, the stone for the Kentucky Building columns was removed from the northeast side of White Stone Quarry Hill. This was good stone which, for one reason or another, had been bypassed years before. It was, however, fitting that this spot should provide the last stones. The site offers a magnificent view of the Western Kentucky University campus and the city of Bowling Green, where stand many landmarks fashioned from the heart of Quarry Hill.

Transporting the long stones, much longer in the rough than the finished twenty-two feet, required ingenuity. The stones had to be moved from one side of Quarry Hill to the other, where they could be loaded onto rail cars and shipped into the mill. Alford explained how they did it:

We had a big four-wheel trailer and it had solid tires on it. It was connected to a huge solid-tire truck. On the bed of that trailer, we put a great, huge, square timber. It would reach all the way across the trailer. And then on the back end of the truck, we put another big timber. Then we would place these stones on those timbers—one end on the trailer and one

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83Roscoe Alford interview, 24 January 1984; Description of the White Stone, 6.
end on the truck—and boom them on with chains. It was a means to let the stone cut and turn . . . on that sharp turn on the way to the track.85

The stones then traveled over the old White Stone Quarry Railroad to Memphis Junction and on into Bowling Green. There, stoncutters and carvers at the Southern Cut Stone Mill on Church Street fashioned them into the stately pillars. Later, Charlie Jones, a first-class stonemason of the day, set them into place at the Kentucky Building site.86 This was the last major project utilizing the White Stone Quarry.

Although many American industries eventually recovered following the Great Depression, the White Stone Quarry did not. Nevertheless, throughout America grand stone structures still stand as silent monuments to a one-hundred-year span of the White Stone Quarry.

86Roy Jones interview, 10 February 1984. The interviewee was a brother to the late Charlie Jones.
Appendix

Some Other Buildings and Parks Which Were Constructed Wholly or in Part from the Warren County Limestone Quarries:

First Baptist Church, Bowling Green, Ky. (White Stone Quarry)
Gordon Wilson Hall, Western Kentucky University (Keystone Quarry)
State Street Methodist Church, Bowling Green, Ky. (Underwood Quarry)
Arch and Column Wall—Ivan Wilson Amphitheater, Western Kentucky University (Keystone Quarry)
Governor’s Mansion, Frankfort, Ky. (Victoria Limestone Co. Quarry)
Victory Baptist Church, Bowling Green, Ky.
Methodist Church, Richdsville, Ky.
Old Armory Building, Bowling Green, Ky.
Gateway to Fountain Square Park, Bowling Green, Ky. (Smallhouse Quarry)
Speed Memorial Art Museum, Louisville, Ky.
Hall of Records, Brooklyn, N.Y.
Presbyterian Theological Seminary, Louisville, Ky.
Pulitzer Fountain, New York, N.Y.
Saint Thomas Cathedral, Fifth Avenue, New York, N.Y.
Dime Savings Bank, Brooklyn, N.Y.
Church of Our Lady of Victory, Philadelphia, Pa.
Seelbach Hotel, Louisville, Ky.
Christian Church, Louisville, Ky.
United States Custom House, Nashville, Tenn.
Carnegie Library, Nashville, Tenn.
Nashville Trust Co., Nashville, Tenn.
Stahlman Building, Nashville, Tenn.
United States Arsenal Buildings, Columbia, Tenn.
Tennessee Trust Co., Memphis, Tenn.
North Memphis Savings Bank, Memphis, Tenn.

Atlanta University Buildings, Atlanta, Ga.
Chamber of Commerce, Atlanta, Ga.
Odd Fellows' Temple, Atlanta, Ga.
St. Boniface School and Church, Evansville, Ind.
St. Mary's School and Parsonage, Evansville, Ind.
Ohio Valley Bank Building, Henderson, Ky.
Jewish Synagogue, Henderson, Ky.
United States Government Building, Lexington, Ky.
Broadway Christian Church, Lexington, Ky.
United States Government Building, Paducah, Ky.
Grace Episcopal Church, Paducah, Ky.
Citizens' Savings Bank, Paducah, Ky.
Knights of Pythias Hall, Clarksville, Tenn.
United States Government Building, Jackson, Tenn.
Illinois Central Railroad Offices, Jackson, Tenn.
Tennessee State Bank Building, Humboldt, Tenn.
The Polytechnic Institute, Auburn, Ala.
Bennett Building, Peoria, Ill.
United States Government Building, Carmi, Ill.
United States Government Building, Jackson, Miss.
United States Government Building, Gulfport, Miss.
United States Government Building, Pensacola, Fla.
United States Government Building, Jacksonville, Fla.
Saint John's Cathedral, Jacksonville, Fla.