BOSHELL'S MILL
Birmingham Industrial District
Lost Creek at Alabama Route 124,
1.7 miles South of US Route 78
Townley
Walker County
Alabama

HAER No. AL-18

PHOTOGRAPHS

REDUCED COPIES OF MEASURED DRAWINGS

WRITTEN HISTORICAL & DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Department of the Interior
P.O. Box 37127
Washington, D.C. 20013-7127

HISTORIC AMERICAN ENGINEERING RECORD

BOSHELL'S MILL

HAER No. AL-18

Location: The site is located in Walker County, ten miles west of the city of Jasper, on Lost Creek. The site of the mill is in the community of Cedrom, one mile northwest of the town of Townley, on Alabama Highway 124. The site lies approximately one-half mile south of U.S. Highway 78.

Date Constructed: 1885 (original sawmill),1902 (dam and sawmill), 1903 (gristmill)

Significance: Boshell's Mill is of local significance in the development of Walker County. It was typical of the small scale industry supporting construction when Townley was a thriving coal mining town around the turn of the century. It also illustrates the transfer of technology, having been equipped with efficient water turbines of advanced design in an isolated rural setting.

Project Information: This recording project is part of the Historic American Engineering Record (HAER), a long range program to document the engineering, industrial and transportational heritage of the United States. The Birmingham District Recording Project was cosponsored during the summer of 1992 by HAER by the Birmingham Historical Society, Marjorie L. White, Director.

Historian: J. Lewis Shannon, Jr.

Boshell's mill was actually one of several mills operated in Walker County by members of the Boshell family over the years. Known exclusively as Boshell's Mill, it was built by William R. Boshell (1851-1925) as a sawmill in 1885 at or near the present site. W.R. Boshell, as he was known locally, was a member of the extended Boshell family, which was prominent in the history of this section of Walker County. The mill represented one of W.R. Boshell's enterprises, which included a general store in Townley.[1]

Boshell's sawmill was originally powered by a steam engine, and Lost Creek was used to transport logs downstream to the mill. A major customer of the mill was nearby Frisco Railroad, now part of the Burlington Northern system, which used timbers from the mill for trestles and cross-ties.[2]

In the summer of 1901, W.R. Boshell began construction of a dam across Lost Creek to provide power for an expanded milling complex. The dam, built of indigenous stone quarried from the bed of the creek, stretched roughly thirty feet across Lost Creek, and stood approximately ten feet high at the weir. This dam was completed in 1902, and the expanded sawmill powered by the headwaters of the dam was ready for production by October of that year.[3]

In 1903 Boshell completed a gristmill, also powered by water, situated on Lost Creek across from the sawmill. Headwaters from the same dam powered the gristmill. Available sources, primarily based on oral histories, suggest that the same workers operated both the sawmill and the gristmill.[4]

The mill buildings were constructed of wood, with board and

---

[1]Muris R. Boshell, Boshell Family History (Haleyville, AL: By the author, 1987), 16-17; Birmingham Regional Planning Commission (BRPC), A Historic Site Survey of Blount, Chilton, Shelby, St. Clair, and Walker Counties (Birmingham: A.H. Cather Publishing Co., 1975), 51-52.

[2]Charlotte Kilpatric, "Boshell Mill History Shows Many Faces," Jasper (Alabama) Daily Mountain Eagle, 22 June 1973, 6 (A); Department of the Interior, National Park Service (NPS), "National Register of Historic Places Inventory - Nomination Form: Boshell's Mill," by W. Werner Floyd, Alabama Historical Commission, Montgomery, AL: 19 March 1975; Boshell, Family History, 16-17.

[3]Kilpatric, "Mill History"; Boshell, Family History, 16-17; Jasper (Alabama) Mountain Eagle, 21 August 1901, 8 January, 6 August, 22 October 1902; BRPC, Site Survey, 51.

[4]Kilpatric, "Mill History"; Boshell, Family History, 16.

batten siding and metal roofing. Large hand-hewn cylindrical beams bore all structural loads on the floor and roof. These buildings were elevated above the creek bed on stone piers also quarried from the creek bed. The gristmill was located over the dam, and the sawmill was on the downstream side with one end projecting over the dam to receive power. The upstream side of the sawmill contained a large opening through which logs floated to the mill could be hoisted.[5]

Water turbines mounted on vertical axes at either end of the dam provided power for both mills. The sawmill turbine, at the western end of the dam, is enclosed in an iron penstock located in the remains of a stone forebay, suggesting that the penstock was a later addition. The gristmill turbine was situated in an open forebay, driving mill machinery manufactured by DeLoach.[6]

Both turbines were provided with water through rectangular inlets piercing the dam near its base. The penstock of the sawmill turbine is affixed to the inlet on the western end of the dam, while the eastern inlet provided water to the stone forebay that housed the gristmill turbine. This inlet configuration would have been integrated into the stonework of the dam at its construction, indicating that the gristmill was planned during the design phase of the dam rather than added later as an afterthought, as some sources suggest.[7]

Members of the Boshell family operated the mill complex until it closed in 1963. Fire claimed the sawmill building in 1976, and the gristmill fell to the same fate in 1986.[8]

This site is located adjacent to Alabama Highway 124 and is entered by a small paved road. Obvious features of the site are limited to the stone dam across Lost Creek and the stone piers which once supported the mill buildings. However, the two turbines that powered the mills remain in place and constitute significant features of the site.

The sawmill turbine remains inside a cylindrical iron penstock approximately forty-four inches high and forty-eight inches is diameter. The sides of this penstock are of riveted iron plate and the top is cast iron penetrated by the iron drive shaft, which extends above the height of the stone piers that supported the sawmill floor. This shaft is surmounted by a cast iron bevel gear that drove a horizontal shaft in the sawmill, powering the mill machinery. The side of the penstock has rusted

---

[5]NPS, "Boshell's Mill".

[6]Kilpatric, "Mill History"; Boshell, Family History, 16; NPS, "Boshell's Mill".

[7]Kilpatric, "Mill History"; Boshell, Family History, 16.

[8]Boshell, Family History, 17.

through, and since the turbine inlet is open there is water flowing through this breach under approximately seventy inches of head, obscuring the turbine inside.

The gristmill turbine also remains in situ, but the forebay floor is missing and the turbine is canted on its side, partially buried in rock and mud. The inlet of the forebay is blocked, allowing observation of the turbine whenever the level of the tail waters is low, but extensive corrosion has prevented positive identification at this time. It is typical late nineteenth century design, with inward discharge of water, and is equipped with a register gate and a cylindrical draught tube of undetermined length. The case has a diameter of thirty-four inches, and the sixteen vanes of the register gate are sixteen inches high. This turbine is a left-hand model, producing counterclockwise rotation. The design of this turbine is very similar to the twenty-five inch "Victor" or "Type A" turbine produced by the Platt Iron Works, which was introduced in 1877 by Stilwell and Bierce of Dayton, Ohio. Also similar is the twenty-seven inch "Special Wheel", manufactured by T.C. Alcott and Son of Mount Holly, New Jersey. These were high-efficiency turbines, providing higher than eighty percent efficiency, and producing approximately thirty horsepower under the head available at Boshell's Mill.[9]

The drive shaft of the gristmill is surmounted by a cylindrical cast iron drive gear with rectangular openings around the perimeter. This gear type, equipped with replaceable wooden gear teeth fitted into the rectangular openings, would maintain the vertical axis of rotation necessary to operate the gristmill machinery.

In the bottom of the gristmill forebay lie one intact mill stone and fragments of two other mill stones. These stones have a diameter of thirty-five and one-half inches, with thicknesses varying from nine and one-half to fifteen inches.

Other features of the site include various iron drive shafts and rods submerged in the headwaters of the dam, near the sites of the mill buildings. It was not possible to document these artifacts.

Primary source documentation of this site is virtually nonexistent, but local newspapers from nearby Carbon Hill may

---

[9]Arthur T. Safford and Edward Pierce Hamilton, "The American Mixed Flow Turbine and its Setting," American Society of Civil Engineers: Transactions, paper number 1503 (1922) 1266; Daniel W. Mead, Water Power Engineering: The Theory, Investigation, and Development of Water Powers (New York; McGraw Publishing Co., 1908) 267-68; T.C. Alcott and Son, Descriptive Catalogue of Alcott's High Duty Turbine (Mount Holly, NJ: By the author, n.d.) 15,19; David R. Shearer, "Waterwheel Types and Settings," Power, 5 November 1918, 670-72.

yield some information pertaining to the history of the mill. Most information available has come from oral histories and Boshell family histories, but this information is often unreliable or contradictory. Archeological research may provide information concerning the machinery used at the mill.

WORKS CITED

Alcott, T.C. and Son. Descriptive Catalogue of Alcott's High Duty Turbine. Mount Holly, NJ: By the author, n.d.

Birmingham Regional Planning Commission. A Historic Site Survey of Blount, Chilton, Shelby, St. Clair, and Walker Counties. Birmingham: A.H. Cather Publishing Co., 1975.

Boshell, Muris R. Boshell Family History. Haleyville, AL: By the author, 1987.

Frizell, Joseph P. Water Power: An Outline of the Development and Application of the Energy of Flowing Water. New York: John Wiley & Sons, and London: Chapman & Hall, Ltd., 1900.

Grimshaw, Robert. The Miller, Millwright, and Millfurnisher. New York: Howard Lockwood, 1882.

Jasper (Alabama) Mountain Eagle, 1901-02.

Kilpatric, Charlotte. "Boshell Mill History Shows Many Faces." Jasper (Alabama) Daily Mountain Eagle, 22 June 1973, 6(A).

Mead, Daniel W. Water Power Engineering: the Theory, Investigation, and Development of Water Powers. New York: McGraw Publishing Co., 1908.

Safford, Arthur T. and Edward Pierce Hamilton. "The American Mixed-Flow Turbine and Its Setting." American Society of Civil Engineers: Transactions. Paper number 1503 (1922): 1237-1292.

Shearer, David R. "Waterwheel Types and Settings." Power. 5 November 1918, 670-72.

U.S. Department of the Interior. National Park Service. "National Register of Historic Places Inventory - Nomination Form: Boshell's Mill," by W. Werner Floyd, Alabama Historical Commission. Montgomery, AL: 19 March 1975.