Woodward Iron Company Furnace
(Woodward Iron Company)
Near Oppossum Creek
Woodward
Jefferson County
Alabama

HAER No. AL-4

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
Washington, D.C. 20240

HISTORIC AMERICAN ENGINEERING RECORD

WOODWARD IRON COMPANY FURNACE
(Woodward Iron Co.)
HAER AL-4

DATE: 1882+

LOCATION: Near Opossum Creek
Woodward, Alabama

DESIGNED BY: unknown

OWNER: Woodward Coal and Iron Company

SIGNIFICANCE: The Woodward Iron Company established the first iron furnace in the Bessemer area, and began operation of its first furnace in 1883. The Company later expanded to include coal and ore mines, quarries, furnaces, and a private railway. In 1966, it was reportedly the largest independent and completely integrated manufacturer of pig iron in the U.S. The facility was demolished in 1974-75.

TRANSMITTED BY: Monica E. Hawley, Historian, 1983.

ADDENDUM TO:
WOODWARD IRON COMPANY WORKS SITE
(Woodward Coal & Iron Company Furnace)
Birmingham Industrial District
Near Opossum Creek
Woodward
Jefferson County
Alabama

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HISTORIC AMERICAN ENGINEERING RECORD

WOODWARD IRON COMPANY WORKS SITE
(Woodward Coal & Iron Company Furnace)

This report is an addendum to a 1 page report previously transmitted to the Library of Congress.

Location: The site is bounded by I-59/20 on the east; Warrior River Road on the north; a residential district along Brooklane Drive on the west; and the Woodward Golf Course on the south, Woodward, Jefferson County, Alabama. Access to the site is available from the north via Warrior River Road and Koppers Drive. From I-20/59 the site is reached by taking Exit 113 to Woodward Road.

Date of Construction: 1883-1990s

Builder/Architect/ Designer: Multiple

Present Owners: Koppers Industries, Piggly Wiggly Corporation, Alabama Silicon, Inc., A & K Railroad Materials Inc., Vulcan Materials, Vulcan Pipe and Steel Coatings, Vulcan Painters, and the vacant land is of unidentified ownership.

Present Condition: The integrity of the site has been compromised due to multiple current uses. Furnace foundations, early coke ovens, headquarter building and company golf course remain untouched by these new uses.

Project Information: This report is based upon written documentation donated by the Birmingham Historical Society, reformatted to HABS/HAER guidelines.

Significance: While its state of preservation in no way rivals the Sloss City Furnaces, the Woodward Furnace Site is perhaps the most significant foundry iron blast furnace plant in the District. As the first company to achieve full vertical integration, Woodward served as the model for other blast furnace operations. Professional trade journals often sited Woodward for its profitability and efficiency. From an engineering point of view, the structural remains of the blast furnace plant

contain much information about the construction materials and building techniques. Built at different times, the four furnaces present a continuum in furnace design not available at any other site in the District and perhaps not available in the written record.

DESCRIPTION

Located on this vast industrial site are the foundations of the four historic Woodward Iron Company furnaces and ancillary structures, an electric furnace (currently operating), a range of beehive coke ovens dating to the 1880s, a coke works and by-products plants (currently operating), an extensive rail network (much of it in use) and the former Woodward Iron Company Headquarters Building (1912). In addition to the historic resources associated with the Woodward Iron Company, the site has been extensively redeveloped with additional industries including the Piggly Wiggly Distribution Center, Alabama Silicon, Inc., A & K Railroad Materials, Inc., Vulcan Materials, Vulcan Pipe and Steel Coatings, Vulcan Painters and the former Mulga Coal Company Headquarters.

The blast furnace site, which has not been redeveloped, contains the foundations, wall portions, exhaust stacks and other remnants of virtually every industrial structure that once stood. The most notable features include foundations of four blast furnaces, hot blast stoves and cast sheds. The reinforced concrete stock bins are relatively well preserved, missing most of their hardware but retaining such features as the foundations and bed plates for one of the stock hoisting engines. The beehive coke ovens are some of the best preserved in the District. They lack hardware and machinery but the retaining walls have survived and the interiors of the ovens are fairly well preserved. The by-product coke plant is in a good state of preservation but several features, including the coke ovens have been extensively modified. The by-product processing facilities also appear to have been modified extensively.

The following structures are located on the Woodward site:

1. Furnaces

   The remains from historic furnaces at the Woodward site are extensive. The foundations of virtually every industrial structure are present in varying states of preservation. Remains include all furnace foundations, each cut off at different levels above ground level; cast sheds, hot blast stoves, stacks and stock bins. The bed plates for one of the hoisting engines is intact in one portion of the stock bins. In addition to the furnace plant proper, the power house foundations and three large stacks are also standing. The

ground floor of the refrigeration plant which dehumidified the furnace blast is also preserved. The electric furnace is currently operated by Alabama Silicon.

2.Koppers Industries

a.Woodward Coke Plant

The Koppers Coke Works is the former Woodward Coke Plant. Upon acquisition of the Woodward Coke Plant in 1974 by Koppers Company, Inc., the operations were significantly updated with the installation of 226 new Koppers ovens which produce foundry coke for the metal castings industry.

b.Chemical By-Products/Roofing and Tar Plants

Koppers Industries also operates roofing and tar plants at Woodward. The tar plant started in the 1920s with an underground pipeline transferring gas from Woodward's coke ovens to its roofing operations. Expansions were undertaken during the 1980s to make the Koppers operation at the Woodward site the largest and most efficient of the company's three American plants.

3.Coke Ovens

Although the beehive coke ovens themselves have not been specifically identified, White located the general area in the eastern portion of the site. The firebrick coke ovens, which have been covered by overgrowth lie to the east of Woodward Road and to the north of the Piggly Wiggly Distribution Center, described below. They lie beneath a long loading ramp on the hillside.

4.Woodward Iron Company Headquarters Building

Constructed in 1912, the Woodward Iron Company Headquarters is a handsome two-story brick building which remains vacant. It is located immediately off of Woodward Road at the entrance to the site.

5.Railroads

The site is amply served by rail. The Birmingham Southern Railroad, along with the Mead Corporation Railroad, the Norfolk Southern Railroad and the CSX Railroad pass through the property.

6.Mulga Coal Company Building

The former headquarters building of the Mulga Coal Company is located on the site. The company, which had operated the Mulga Coal Mine as a subsidiary of Mead Corporation, Inc., no longer exists.

7.A lake stretching across approximately 20 acres is located on the northwestern edge of the site.

Other Site Characteristics

1.Piggly Wiggly Distribution Center
The 500,000 square foot Piggly Wiggly Warehouse/Distribution Center is situated on a 253 acre parcel of land. It lies to the north and west of the historic Woodward Iron Company headquarters building. The facility was constructed in 1988 and houses 500 employees.

2.Alabama Silicon, Inc.
Alabama Silicon, Inc., opened its ferrosilicon operation in 1990 utilizing the electric furnace which was constructed in 1961 on the Woodward Iron Company site. The company employs 40 people.

3.A&K Railroad Materials, Inc.

4.Vulcan Materials - Woodward Plant

5.Vulcan Pipe and Steel Coatings

6.Vulcan Painters

7.Vacant Acreage:
The site contains a considerable amount of vacant property which lies generally between the railroad tracks and Interstate I-59/20.

HISTORICAL OVERVIEW

Established in 1881, Woodward Iron Company became one of the largest and most successful of Birmingham ironmaking corporations and the only one to remain in local ownership throughout its near 100 year history. Iron furnaces at Woodward were first constructed in 1883 and iron production continued at this site until 1973. Joseph H. Woodward and William H. Woodward founded Woodward Iron in 1881. As descendants of an ironmaking family of West Virginia and earlier Massachusetts, they brought technological and business acumen to their first southern venture. They purchased not only the site of the ironworks, but also extensive coal and red ore lands within a five mile radius of the works, building a company railroad to link these sites. The well-managed operation was a successful producer of cheap pig iron from the start. By 1909, 2,000 men were on the payroll at Woodward. Company housing had been built at Woodward as well as at coal and iron ore mining sites. In 1912, after purchasing the holdings of the Birmingham Coal and Iron Company, the company constructed a corporate headquarters building at Woodward.

In 1968, Mead Corporation, Inc., a paper and pulp company headquartered in Dayton, Ohio, acquired the company. Mead closed furnaces and mining operations in the early 1970s and sold coal mines and the coke works to new owners. Company housing was demolished and the Woodward site incorporated into the City of Bessemer and successfully marketed for new industrial uses.

CONDITION OF SITE

1.Pig Iron Furnaces
Although the furnaces have been virtually dismantled, foundations and other remnants in varying stages of preservation are extant.

2.Koppers Industries
a.Woodward Coke Plant
The old Woodward Coke Plant was modernized in 1974 with the installation of 226 Koppers ovens.

b.Chemical By-Products/Roofing and Tar Plants
The expansion during the 1980s made the Koppers roofing and tar operations at Woodward the largest and most efficient of the company's American plants.

3.Beehive Coke Ovens
Location and visual assessment of the coke ovens was not conducted during the preliminary investigation of the Woodward site.

4.Woodward Iron Company Headquarters Building
A visual assessment indicates that the Woodward Iron Company's vacant administrative building is in sound structural condition. There is evidence of the need for roof repair, and window frames have been boarded up. Although no interior inspection was conducted, the building appears to be functional, if appropriate repairs are made.

5.Railroads
All railroad lines are currently in good condition and are operational.

6.Mulga Coal Company
The building which formerly houses the Mulga Coal Company is vacant and in a dilapidated condition.

7.Piggly Wiggly Warehouse Distribution Center
The Piggly Wiggly Warehouse/Distribution Center is in excellent condition.

8.Alabama Silicon, Inc.
Although the furnace was built in 1961, it has recently been returned to efficient operating condition.

Sources Consulted

Armes, Ethel. The Story of Iron and Coal in Alabama, facsimile ed. Leeds, Ala.: Beechwood Books, 1987.

Chapman, Henry Hollis. The Iron and Steel Industries of the South, (Tuscaloosa, Ala.: Univ. of Ala. Press, 1953).

Crolius, F. J. "Straight Line Production," Coal Industry 7 (June 1924): 224-230.

Higgins, Edwin. "Iron Operations of the Birmingham District," The Engineering Journal 11 (November 1908): 1043-1048.

Woodward Iron Company, Alabama Blast Furnaces, Woodward, Ala.: Woodward Iron Company, 1940.

"Woodward Plant Improvements," Iron Trade Review 55 (November, 1914): 905-910.

"World's Record in Building Large Engines," Iron Trade Review 54 (January 1914): 204-207.

White, Marjorie. The Birmingham District, pp. 134-140.

Site Visit, 7/3/91