U.S. STEEL, FAIRFIELD WORKS,
Birmingham Industrial District
Just N. of Valley Rd. and W. of Ensley,
Pleasant Grove Rd.
Fairfield
Jefferson County
Alabama

HAER No. AL-37

PHOTOGRAPHS

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

ADDENDUM TO
TENNESSEE COAL & IRON CO.,
FAIRFIELD WORKS
(U.S. Steel, Fairfield Works)
(U.S.X., Fairfield Works)
Birmingham Industrial District
N. of Valley Rd., W. of Ensley-
Pleasant Grove Road
Fairfield
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WRITTEN HISTORICAL & DESCRIPTIVE DATA

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TENNESSEE COAL & IRON CO., FAIRFIELD WORKS
(U.S. Steel, Fairfield Works)
(U.S.X. Corporation, Fairfield Works)

ADDENDUM TO
U.S. STEEL, FAIRFIELD WORKS

NOTE: This report is an addendum. The new record name reflects the historic name of the structure.

HAER No. AL-37

Location: Eight miles southwest of the Birmingham City Center, Fairfield, Jefferson County, Alabama. The site is generally bound by Interstate 20/59 on the east and south; Tin Mill Road on the west; and Ensley-Pleasant Grove Road No. 76 on the north. The plants are accessed by exits from I 20-59 at Valley Avenue and Tin Mill Road. The Fairfield Works site is situated in Opossum Valley at the foot of Flint Ridge to the southeast. The developed portion of the site gently slopes to the southwest.

Date of Construction: 1909-1980s

Present Owner: USX Corporation

Builder/ Architect/Engineer: Multiple

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

Description: Active industrial production facilities include three Q-BOP (basic oxygen process) furnaces, the High-Line, a continuous twin slab casting facility, No. 8 blast furnace, a seamless pipe and other plate mills, Harbison-Walker Refractories brickmaking plant and the Vulcan Materials slag processing plant. To the east of these plants are the stacks of the recently demolished Ensley open-hearth and blast furnaces. To the west of the current operating facilities are the tin, strip and sheet mills, the machine, fabricating and axle shops and storage facilities no longer in use.

Significance: Since its construction in 1917, the Fairfield Works has remained the largest steel mill in the southeast. Its blast furnace plant has historically featured the largest furnaces in the South and the No. 8 Furnace, the only furnace currently standing, is one of the largest in the United States. While most of the older structures and facilities have been modified or replaced, the current facilities including a seamless pipe mill, Q-BOP steel furnaces and continuous caster are all "state of the art" modern facilities.

HISTORICAL OVERVIEW

On November 5, 1907, U.S. Steel acquired the entire assets of TCI, then the Birmingham District's strongest industrial corporation with principal iron and steel producing facilities at Ensley and ore and coal mining operations scattered over 20% of the Jefferson County. Following the take over, U.S. Steel began development of new production facilities at a new town, originally called Corey for the president of U.S. Steel, but later renamed Fairfield, due to the president's scandalous divorce.

During 1909, TCI began construction of a coke by-products plant at Fairfield, when completed it included 280 Koppers-type ovens. Harbison-Walker Refractories of Pittsburgh, makers of firebrick and tile, completed their Fairfield plant, still operating, during 1909. The American Steel and Wire Company also began construction of a plant in 1910. During the 1910s, TCI also constructed an industrial water system and opened extensive new coal mines at Docena, Edgewater and Bayview.

World War I increased demand for local steel production. In 1917, TCI expanded facilities at Fairfield to roll structural and plate steel cast at Ensley into shapes for shipbuilding. Subsidiary companies in Mobile built 14 ships. TCI's World War I capacity included production of 1.2 million tons of pig iron; 700,000 tons of steel ingots; 380,00 tons of rails and 61,000 tons of bars and plates. After the war, these Fairfield mills were converted to rail car production and later disassembled and moved to Bessemer to form the nucleus of the Pullman Standard operation, long Bessemer's largest employer.

During the 1920s, TCI's Birmingham plants could still assemble the raw materials for making steel more cheaply than anywhere in the country. And as southern markets increased, TCI expanded the steel-making and finishing operations at Fairfield, supplying 50% of the southern steel market. Completion of a merchant mill in 1923 and a sheet mill in 1926 provided a major source of steel supply for manufacturers and fabricators throughout the South. With mills operating at full capacity, steel production peaked in 1926. TCI produced 1.4 million tons of steel ingots and 590,00 tons of steel rails. During 1928 blast furnace and coke oven capacities increased and a cotton tie and hoop mill was built.

By World War II, TCI was by far the largest producer of primary steel in the region and supplied huge quantities of its products to southern manufacturers of defense items ranging from artillery shells to merchant ships. Additions to the furnaces and mills were made at this time. By the late 1940s, TCI plants, extending from Ensley to Fairfield and on to Bessemer, boasted a total annual capacity of 3 million tons of finished hot-rolled steel products

including rails, structural shapes, plates, reinforcing rods, bars, ingots, blooms and billets for forging. During the 1950s, coal mines at Concord and iron production facilities at Ensley were improved. TCI employed as many as 28,000 persons at this time.

U.S. Steel retained the TCI name in Birmingham, first as a subsidiary and then as a division until 1964 when all of the company's basic steel-making operations lost their separate identity through consolidation. At that time the Ensley and Fairfield Works were combined into the Fairfield Works and the local division offices moved from Fairfield to Pittsburgh.

During the 1960s, increased competition from facilities in Texas and other foreign and domestic producers reduced Birmingham's share of steel production to 18% of the steel made in the South.

Beginning in 1974, U.S. Steel undertook major plant expansions installing three Q-BOP (basic oxygen process) furnaces by 1978. These furnaces can produce 200 tons in 30 to 40 minutes and 5,000,000 tons annually. During 1978, U.S. Steel also installed a new battery of coke ovens and the behemoth No. 8 blast furnace. This computerized operation is capable of casting 5,000 tons of iron (the equivalent of 80 Vulcan statues) per day. During the 1980s, U.S. Steel completed construction of a major steel pipe mill at an estimated cost of $800 million.

U.S. Steel, now USX's, investments in the Fairfield plants during the 1980s are estimated at $1 billion. The continued efficiency and modernization of the Warrior-Tombigbee Waterway were important in the decision to modernize facilities at Fairfield. USX employs 2,500 persons at the Fairfield plant.

The No. 8 Furnace, the three Q-Bops, slab casting, rolling and pipe mills, as well as firebrick and slag processing and transportation facilities, all reworked-rebuilt during the 1970s and 1980s, are in active use. Equipment in the tin, strip, and sheet mills, the machine, fabricating and axle shops and storage facilities is no longer in use. Equipment in these facilities is being sold and scrapped and facilities prepared for reuse. Historical structures may be demolished during the construction of new operations at this active industrial facility.

Significant Historic Structures and Groups of Structures Remaining include the following:

Furnaces Nos. 5, 6, 7, and 8 (1970s)
Furnaces Nos. 5, 6, and 7 and the remaining structures such as hot blast stoves are being demolished. The No. 8 Furnace, constructed

in the late 1970s, currently supplies iron for the three Q-BOP open hearth furnaces completed in 1974 and 1978. Daily iron production is 5,000 to 6,000 tons; annual iron production is 750 million tons.

U.S. Steel Continuous Continuous Twin Slab Caster (1980s)

This slab caster, installed in the 1980s to cast single or twin slabs, is unique in the world. During March 1992, this plant set a North American record with 10 days (308 heats) of uninterrupted casting.

By-Products Plant (1909)
Now U.S. Steel-USX Coke and Chemicals Division
Ensley-Pleasant Grove Road (JC 76) at intersection with Tin Mill Road (JC 59)

This plant is no longer in operation. Buildings and structures remain.

Harbison-Walker Brick Plant (1909)
Entrance to west of Ensley-Pleasant Grove Road

This plant is still in operation.

U.S. Steel-American Steel and Wire Co. Plant (1914-1979)
Now USX Pipe Mill
First plant entrance west of Fairfield, to north of Valley Road

The original headquarters building is still standing. The site of the plants has been redeveloped as pipe mill plant in the 1980s.

U.S. Steel Pipe Works (1980s)
Now USX Pipe Works
Valley Road (JC 56)

U.S. Steel Q Bop Furnaces (1980s)
USX Q Bop Furnaces

The three furnaces produce c. two million tons of steel annually.

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