

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

FOR NPS USE ONLY
RECEIVED
DATE ENTERED

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC McCulloch's Gold Mill

AND/OR COMMON

Rock Engine House, North State Mine

2 LOCATION

STREET & NUMBER On Copper Branch, 250 yards North of SR 1153

CITY, TOWN

Jamestown

VICINITY OF

6th

STATE

North Carolina

CODE

37

COUNTY

Guilford

CODE

81

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE
<input type="checkbox"/> DISTRICT	<input type="checkbox"/> PUBLIC	<input type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE <input type="checkbox"/> MUSEUM
<input type="checkbox"/> BUILDING(S)	<input checked="" type="checkbox"/> PRIVATE	<input checked="" type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL <input type="checkbox"/> PARK
<input checked="" type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL <input type="checkbox"/> PRIVATE RESIDENCE
<input type="checkbox"/> SITE	PUBLIC ACQUISITION	ACCESSIBLE	<input type="checkbox"/> ENTERTAINMENT <input type="checkbox"/> RELIGIOUS
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> GOVERNMENT <input type="checkbox"/> SCIENTIFIC
	<input type="checkbox"/> BEING CONSIDERED	<input checked="" type="checkbox"/> YES: UNRESTRICTED	<input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> TRANSPORTATION
		<input type="checkbox"/> NO	<input type="checkbox"/> MILITARY <input checked="" type="checkbox"/> OTHER: abandoned ruin

4 OWNER OF PROPERTY

NAME

Oakdale Cotton Mills

STREET & NUMBER

c/o Mr. Lyman Hodgin, Secretary

CITY, TOWN

Jamestown

VICINITY OF

STATE

North Carolina

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE,
REGISTRY OF DEEDS, ETC.

Register of Deeds Office, Guilford County Courthouse

STREET & NUMBER

Courthouse Square on Market Street

CITY, TOWN

Greensboro

STATE

North Carolina

6 REPRESENTATION IN EXISTING SURVEYS

TITLE

Historic American Engineering Record

DATE

1974

FEDERAL STATE COUNTY LOCAL

DEPOSITORY FOR
SURVEY RECORDS

Library of Congress

CITY, TOWN

Washington

STATE

D.C.

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input checked="" type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input type="checkbox"/> GOOD	<input checked="" type="checkbox"/> RUINS	<input type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED DATE _____
<input type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The partially ruined remains of the McCulloch Gold Mill are built of dry laid random ashlar granite construction. Two walls remain standing. The east wall is 29 feet, 6 inches long; the south wall is 24 feet, 8 inches wide. Documentary photographs show that the structure was originally two stories high and covered with a shingled hip roof. The roof and north wall are gone, as are portions of the east and west walls. The chimney and Gothic arched opening on the south wall still remain. The Gothic arch stands about twenty feet high with a keystone that, until a few years ago, bore the inscription "1832". At the northwest corner of the building is a chimney about sixty feet high which is still in excellent condition. The chimney was probably used as either a furnace to melt the gold into ingots, or to recover mercury during the retorting process.

At this time, Copper Branch flows past the front (south) side of the building, although openings near the base of the walls on the west side of the structure suggest a possible diversion of the water's course through these openings to supply water for the boiler or to cool the condensation cylinder of a Watt-style beam engine. No machinery remains on the site. The dimensions of the building suggest the use of such an engine on the site using a large flywheel to convert the piston's linear motion into rotary motion to drive the "Chilean mill" that crushed the ore. Further evidence for use of a beam engine and flywheel configuration can be seen in the joist holes still visible west of the entranceway, on the interior face of the south wall, which locate the level of the floor at the height of eight feet above the present dirt floor. Joist holes can also be seen to the east of the entrance indicating that if a flywheel was used, it was either centered at the entrance or located towards the rear. The inner frame, which would have supported the working beam, can be hypothesized from the larger holes appearing higher on the same wall.

Documentary photographs show that the dressed water table on the south elevation originally carried across the base of the present opening, serving as a sill for the entrance. This presents further evidence that the inside floor was constructed eight feet above the dirt floor, which also corresponds with the height of the road built parallel to the south wall across the creek from the building. A bridge possibly connected the doorway and the road, though no evidence of it now remains.

In overall design and window configuration, the structure resembles an engine house in Cornwall as seen in photographs. Local tradition states that the structure was built by slave labor under the supervision and probable design of the mason Elesier Kersey, who was of English origins. Although this local tradition cannot be substantiated, the 1860 census for Guilford County, North Carolina shows a substantial number of Cornish miners in the area who were contemporaries with the date of the construction of the mill. The particular positioning of the windows remains enigmatic. A possible explanation lies in the engine configuration suggested earlier. The openings correspond roughly to the probable location of a steam chamber, piston, and structural crossbeam which would have been used in supporting the working beam of an engine. Windows could have served as access points to these parts or to simply admit light. It is also possible that the smaller middle windows seen on the west wall were actually beam supports or openings through which a shaft transferred energy to the mill.

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INVENTORY -- NOMINATION FORM**

CONTINUATION SHEET

ITEM NUMBER 7 PAGE 1

Located on the original 109-acre tract, the site in addition to the mill building, includes two dams, a mill race, ore dumps, roads, and possibly a turnaround. Immediately behind the building are low retaining walls enclosing a pen slightly larger in plan than the main building. There is also evidence of a second structure with a granite foundation that stood north of the building. It is possible that either the Chilean mill or the boiler stood in this area originally. Copper Branch was dammed one hundred yards upstream from the main structure, to form a reservoir providing constant flow to the site. Although no evidence remains, wooden sluices stood near the main building, directing water to the Chilean mills for use during crushing operations. The concrete gate controlling this water flow still remains. There are also the remains of two earth dams west of the main building along Copper Branch. The dams formed a mill race that ran behind the building. Refuse from the mill can be seen surrounding the sides of the building and are concentrated in a pile 100 yards to the northeast. Large chunks of uncrushed quartz, approximately six inches in diameter litter the site.

In addition to the ore dumps, five carved granite stones are located east of the lower dam. The stones are cut into semi-circular blocks; their function is not known. The stones, each about four and a half feet in diameter and sixteen inches thick, appear to be half millstones. The method of joining is unclear and no center holes have been cut in any of the stones. The mill stones used in the Chilean mill, which were 14 feet in diameter have been removed from the site in recent years.

No access routes remain visible to either the refuse dump or the mill building. As the area was lumbered in the 1940s, heavy sediment deposits and new timber growth have obliterated almost all traces of roads. Except for what appears to be a turnaround, no access routes are visible.

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input checked="" type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION
<input type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input checked="" type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		

SPECIFIC DATES 1832

BUILDER/ARCHITECT

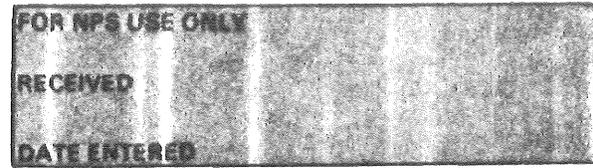
STATEMENT OF SIGNIFICANCE

The McCulloch Gold Mill is significant to the history of the gold mining and processing in nineteenth century North Carolina as the only known example of an antebellum gold mill engine house in the state. It was built in 1832 by Charles McCulloch, an entrepreneur from South Carolina. The engine house remains a monumental stone structure, architecturally significant for its ambitious scale, Gothic Revival design and excellent masonry work; it is notable for the over sixty foot stone chimney and finely dressed Gothic arch opening which remain intact. The Chilean mill which operated at this site was fourteen feet in diameter, twice the size of conventional mills used at that time. The unusually large mills represent an attempt to solve the technological problems prevalent in gold processing in the first half of the nineteenth century.

Criteria Assessment:

- A. The McCulloch Gold Mill is the most intact remaining example of the antebellum development of the gold milling industry in North Carolina. The gold mining and milling industry was an important factor in the economic development of the state, and the McCulloch Mill represents a significant departure from earlier processing methods in search of more efficient and less expensive processes.
- C. Its large scale and fine craftsmanship are significant, along with the use of the Gothic Revival style in industrial architecture.
The McCulloch Mill, being of random ashlar construction, is an architectural rarity as there are few pre-Civil War stone buildings in the state. The Gold Mill well typifies this method of construction and possibly a Cornish influence.
- D. The Gold Mill, as an archeological resource, will likely yield additional important information on methods of gold ore processing with further investigation of the site.

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INVENTORY -- NOMINATION FORM**

CONTINUATION SHEET

ITEM NUMBER 8 PAGE 1

The 1830s was a time of experimentation in both gold mining and milling techniques in North Carolina, with varying degrees of success. By this time, most readily accessible gold from known mines had been removed, leaving the remaining old imbedded in hard quartz veins. The cost of removing this gold from the ore was high. As a result, more efficient milling processes were needed, in an effort to reduce the overall cost of gold refinement. Mechanics and inventors worked to devise, develop, and improve methods of gold milling. The development of a relatively new power source, the stationary steam engine, also led to experimentation in gold milling methods and the development of less expensive means of processing ore.

The McCulloch Gold Mill employed the gold processing innovations of the period, and represents the experimental character of these innovations. In 1831, Charles McCulloch, an entrepreneur from South Carolina, purchased from R. W. Hodson a tract of land upon which he constructed the gold mill in 1832. (A 1912 photograph of the engine house shows the keystone on the Gothic arch entrance as reading 1832. From a contemporary newspaper account, it is known that McCulloch built the mill.) Hodson had been active as a miner in the area beginning in the 1820s, and it is quite possible that Hodson partially financed the construction of the mill, as he later retained part interest in the gold produced there. The McCulloch mill was novel to the Jamestown area in its innovative use of a new milling technique, the Chilean mill, and the use of the stationary steam engine.

Gold milling technology in the first half of the nineteenth century was based solely upon mechanical extraction processes: gold ore underwent various crushing operations before final recovery was complete. The most common method of crushing ore was the Chilean mill. The Chilean mill consisted of two heavy vertical grindstones which operated as in a flour mill, crushing, as in this case, gold-bearing quartz ore placed beneath them. Although no evidence or device exists, it is quite possible that other crushing methods were also used at the McCulloch Mill. It is known, however, that one and probably two fourteen foot in diameter Chilean mills were used there. (The diameter can be ascertained from existing mill bases which were cut into the bedrock.) More than twice the size of conventional mills, it was apparently believed that a larger mill could more effectively crush larger amounts of ore than could ordinary mills.

The size and shape of the engine house structure are all that remain to indicate what type of steam engine might have been used. The shape and configuration of surface openings, combined with features on the interior of the building suggest that it most probably was built to enclose a beam engine, to which a flywheel must have been attached in order to make use of the Chilean mill. It is most likely that a Watt-type beam engine was used in this mill.

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CONTINUATION SHEET

ITEM NUMBER 8 PAGE 2

The McCulloch Gold Mill served nearby Lindsay Mine, Deep River Mine, Gardner Hill Mine, and possibly, the later North State Mine. A contemporary newspaper article described the operations at the mill as follows:

. . . we (the editors) . . . (viewed) the operation of an extensive steam gold mill built by Mr. McCulloch some few years back, and which has been quite successfully and profitably employed upon the ore of neighboring mines. The engine is of a very large class-- the ore is first crushed by large circular stones, propelled around in beds (note plural beds) of solid rock, and after being literally ground up, undergoes the usual washing with quick-silver. Mr. McCulloch gives it as his opinion, that but a small percentage of the pure metal is saved, and in order, if possible, to obviate this, he intends introducing the process of smelting the ore in furnaces.

It is not known exactly how long the McCulloch Gold Mill remained in operation. Certainly, it was the inefficiency of the processing method employed there which led to its becoming obsolete. In 1848, Charles McCulloch sold the property to John Gluyas, a Cornish mining engineer. R. W. Hodson retained one fifteenth interest in all gold produced by the mill, so the mill was still active at that time. Gluyas in turn sold the property to the Central Gold and Copper Company based in Norfolk, Virginia. Whether the Central Gold and Copper Company operated the mill is not known. The mill does not appear in the Industrial Schedule of the 1860 census, so it was presumably inactive at that time. It is quite possible that the mill was abandoned prior to 1860. In the early 1850s northern investments revitalized many of the failing mines in the area and opened many new mines. Many of these mines constructed mills near by to obviate the cost of transporting the gold for milling. The new mills significantly decreased the need for the older less accessible McCulloch Mill. In addition, by mid-century, the obsolete beam engine and largely inefficient Chilean mill prevented the McCulloch mill from actively competing with other ore processors. Thus, indication is strong that the mill was abandoned some time prior to the 1860s.

The Central Gold and Copper Company sold the mill property to the North State Mining Company in 1860. The North State Mining Company retained the property until 1911 when it was sold to a Mr. Raganstall, who was the representative for a lumber company. The current owner, Oakdale Cotton Mills, bought the mill site at a auction from the lumber company.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

Carolina Beacon. October 21, 1836.

Guilford County Register of Deeds. Guilford County Courthouse. Greensboro, North Carolina.

Stockard, S. W. The History of Guilford County. Knoxville: Gaut-Ogden, 1902.

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY Approx. 17 acres

QUADRANGLE NAME High Point, East

QUADRANGLE SCALE 1:24000

UTM REFERENCES

ZONE	EASTING	NORTHING	ZONE	EASTING	NORTHING
A	17	596740	B	17	596735
		3980140			3979800
C	17	596410	D	17	596420
		3979800			3980125
E			F		
G			H		

VERBAL BOUNDARY DESCRIPTION

The nominated property occupies Guilford County Tax Map lots 163, 164, 180, and 181. This boundary was chosen to include all known historical, architectural, and archeological resources which are relevant to the significance of the site.

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME/TITLE Description prepared by Angela Barnett, Apprentice, Survey & Planning Branch;
Significance prepared by James T. Brenner, HAER Researcher

ORGANIZATION

DATE

N. C. Division of Archives & History

STREET & NUMBER

TELEPHONE

109 East Jones Street

733-4763

CITY OR TOWN

STATE

Raleigh

North Carolina 27611

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

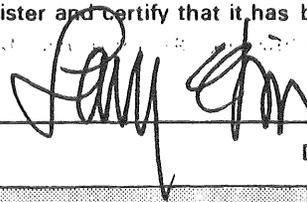
NATIONAL

STATE

LOCAL

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE



TITLE State Historic Preservation Officer

DATE November 2, 1978

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

KEEPER OF THE NATIONAL REGISTER

ATTEST:

DATE

CHIEF OF REGISTRATION

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CONTINUATION SHEET

ITEM NUMBER 8 PAGE 3

Footnotes

- ¹ Guilford County Register of Deeds, Book 23, p. 537.
- ² Carolina Beacon, October 21, 1836.
- ³ S. W. Stockard, The History of Guilford County (Knoxville: Gaut-Ogden, 1902). Letter from Hodson to his cousin reprinted there.
- ⁴ Carolina Beacon, October 21, 1836.
- ⁵ Ibid.
- ⁶ Guilford County Register of Deeds, Book 30, pp. 651-652.
- ⁷ John Gluyas to Central Gold and Copper Company. Deed Book 36, p. 400.
- ⁸ Ibid., Book 37, p. 744.
- ⁹ North State Copper and Gold Mining Company to W. H. Ragan and W. G. Ragsdale. Deed Book 230, p. 507.

GUILFORD COUNTY TAX MAPS JAMESTOWN TWP

SHE
ACL 5
9
25
SCALE

IONS

SCALE 1" = 200'
HAYWORTH SPRING
MAP NO. 2
PLAT 17-13
Lots 153, 164, 180, 181
Approx 17 AC

