

✓LR- 3/17/99

United States Department of the Interior  
National Park Service

**DRAFT**

NATIONAL REGISTER OF HISTORIC PLACES  
REGISTRATION FORM

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Raven Cliff Furnace 98-214

other names/site number Bell and Kincannon Iron Works; site 44WY57

2. Location

street & number Twelve miles southwest of Wytheville  
George Washington and Jefferson National Forests

city or town Cripple Creek not for publication   
state Virginia vicinity   
code VA county Wythe code 197  
zip code \_\_\_\_\_

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this \_\_\_\_\_ nomination \_\_\_\_\_ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property \_\_\_\_\_ meets \_\_\_\_\_ does not meet the National Register Criteria. I recommend that this property be considered significant \_\_\_\_\_ nationally \_\_\_\_\_ statewide \_\_\_\_\_ locally. ( \_\_\_\_\_ See continuation sheet for additional comments.)

\_\_\_\_\_  
Signature of certifying official Date

\_\_\_\_\_  
State or Federal agency and bureau

In my opinion, the property \_\_\_\_\_ meets \_\_\_\_\_ does not meet the National Register criteria. ( \_\_\_\_\_ See continuation sheet for additional comments.)

\_\_\_\_\_  
Signature of commenting or other official Date

\_\_\_\_\_  
State or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is:

- entered in the National Register  
See continuation sheet.
- determined eligible for the National Register  
See continuation sheet.
- determined not eligible for the National Register
- removed from the National Register
- other (explain): \_\_\_\_\_

\_\_\_\_\_  
Signature of Keeper

\_\_\_\_\_  
Date of Action

5. Classification

Ownership of Property  
(Check as many boxes as apply)

Category of Property  
(Check only one box)

- private
- public-local
- public-State
- public-Federal

- building(s)
- district
- site
- structure
- object

Number of Resources within Property

(Do not include previously listed properties in the count)

Contributing	Noncontributing	
<u>6</u>	<u>      </u>	buildings
<u>3</u>	<u>      </u>	sites
<u>  </u>	<u>      </u>	structures
<u>  </u>	<u>      </u>	objects
<u>9</u>	<u>0</u>	Total

Number of contributing resources previously listed in the National Register N/A

Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing.) The Iron Industry of Virginia, 1620-1920

6. Function or Use

Historic Functions  
(Enter categories from instructions)

Current Functions  
(Enter categories from instructions)

Industry/Processing/Extraction

Recreation and Culture

Iron Furnace

Interpretive area of  
George Washington and

Jefferson National Forests

7. Description

Architectural Classification  
(Enter categories from instructions)

Materials  
(Enter categories from instructions)

No Style

foundation: Stone

walls: Stone

roof: N/A

other: N/A

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria (Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

A Property is associated with events that have made a significant contribution to the broad patterns of our history.

B Property is associated with the lives of persons significant in our past.

C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

D Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations (Mark "X" in all the boxes that apply.)

- A owned by a religious institution or used for religious purposes.
- B removed from its original location.
- C a birthplace or a grave.
- D a cemetery.
- E a reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance  
(Enter categories from instructions)

Architecture \_\_\_\_\_  
 Industry \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Period of Significance

1810-1837 \_\_\_\_\_  
 1860-1893 \_\_\_\_\_  
 \_\_\_\_\_

Significant Dates

1810 \_\_\_\_\_  
 1860 \_\_\_\_\_  
 1893 \_\_\_\_\_

Significant Person  
(Complete if Criterion B is marked above)

\_\_\_\_\_  
 \_\_\_\_\_

Cultural Affiliation

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Architect/Builder

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Narrative Statement of Significance (Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS)

\_\_\_ preliminary determination of individual listing (36 CFR 67) has been requested.

\_\_\_ previously listed in the National Register

\_\_\_ previously determined eligible by the National Register

\_\_\_ designated a National Historic Landmark

\_\_\_ recorded by Historic American Buildings Survey # \_\_\_\_\_

\_\_\_ recorded by Historic American Engineering Record # \_\_\_\_\_

Primary Location of Additional Data

X State Historic Preservation Office

\_\_\_ Other State agency

\_\_\_ Federal agency

\_\_\_ Local government

\_\_\_ University

\_\_\_ Other

Name of repository: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10. Geographical Data

Acreage of Property 22

UTM References (Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing	Zone	Easting	Northing
A	<u>17</u>	<u>494350</u>	<u>4076340</u>	D	<u>17</u>	<u>494810</u> <u>4076210</u>
B	<u>17</u>	<u>494400</u>	<u>4076480</u>	F	___	___
C	<u>17</u>	<u>494660</u>	<u>4076500</u>	F	___	___
	___	See continuation sheet.				

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.)

Boundary Justification (Explain why the boundaries were selected on a continuation sheet.)

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**11. Form Prepared By**name/title Heather Crowl; Steven H. Moffson, Architectural Historianorganization Dames & Moore, Cultural Resource Servicesdate 9-26-96street & number 7101 Wisconsin Avenue, Suite 700telephone (301) 652-2215city or town Bethesdastate MDzip code 20814

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**Additional Documentation***Submit the following items with the completed form:*

Continuation Sheets

## Maps

- A USGS map (7.5 or 15 minute series) indicating the property's location.
- A sketch map for historic districts and properties having large acreage or numerous resources.

## Photographs

Representative black and white photographs of the property.

Additional items (Check with the SHPO or FPO for any additional items)

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**Property Owner** (Complete this item at the request of the SHPO or FPO.)name George Washington and Jefferson National Forests, USDA Forest Service  
C/O Mike Barberstreet & number 5162 Valley Pointe Parkway telephone (540) 265-5100city or town Roanoke state VA zip code 24019-3050

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National Park Service  
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Raven Cliff Furnace  
*name of property*  
Wythe, Virginia  
*county and State*

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### Description of Historic Resources

Raven Cliff Furnace is situated on the west bank of Cripple Creek in Wythe County. The furnace is located within the Jefferson National Forests, in an area of young deciduous forest. Limestone outcrops are present along Cripple Creek at the foot of Leaves Knob and at Raven Cliff. The furnace stack lies on the floodplain backed against the first terrace.

### Original

The iron furnace complex at Raven Cliff included the furnace and its support facilities, as well as facilities necessary to support the workers and animals who operated the furnace. The cold-blast charcoal stack was 29' high and 9' across the bosh, with three tuyeres. The furnace was constructed of dry-laid, dressed local limestone and sandstone, with a brick chimney. It was originally connected to the ridge to the west by a charging bridge over which iron ore, limestone flux, and charcoal were wheeled and dumped into the central, brick-lined cavity. A casting house where molten iron was formed into pigs and sows by the sand molding process was located east of the furnace. The tub bellows were powered by a waterwheel set north of and close to the stack. A race ran the length of the foot of the hill to the creek one-quarter mile away. Additional wooden structures were located on the adjacent hill and originally included the iron master's house, workers' dwellings, general store, blacksmith shop, stables, and iron ore and charcoal sheds. The furnace structures were rebuilt in 1861 and 1875.

### Present

Raven Cliff Furnace remains in good condition. The square, trapezoidal stone furnace is roughly thirty feet at the base, tapering to twenty feet at the top. The overall furnace exterior is intact with clearly defined walls reaching thirty feet in height. The furnace is built of approximately twenty-two roughly-dressed courses of limestone blocks. The arches are clearly defined and in good condition. The tap hole faces east, and the casting area east of the tap hole has minimal vegetation (grass). The square tap arch is intact with iron lintels supporting an inverse stepped ceiling. Dirt from the interior of the furnace is covering the tap hole. Two square blast arches (13' x 13') sit on opposite sides of the furnace, and also have dirt from the interior of the furnace covering the tuyere openings. Blast equipment probably supplied both tuyere holes. The rear (west face) of the furnace abuts the ridge. All arches are corbelled and have iron lintels. The north arch lintel and stones are cracked. A collapsed wall aligned with the south furnace wall runs about thirty feet toward the creek from the furnace. This was probably a wall of the casting shed.

The interior stack remains intact to roughly twenty feet, but the south side has collapsed. The interior fire bricks are highly vitrified in the bosh area. Larger fire bricks (6" x 10") line the bosh area up to about fifteen feet; smaller fire bricks (3" x 6") line the stack up to where it has collapsed. The furnace interior is filled with dirt. Several openings below the bosh have allowed dirt to flow into the archways.

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An intact retaining wall lines the ridge west of the furnace and continues along the ridge south of the furnace. It provides a retaining wall for the bridge to the charging deck, and for the blast machinery northwest of the tuyere arch area. The charging deck at the top of the furnace appears to be intact. The wheel pit has collapsed and appears aligned along a north-south axis. A head race runs initially due north, following the creek for 1400'. No remains of a mill pond or dam can be seen. There is no clear indication of a tail race, although a depression runs from the wheel pit southwest to the creek.

Four dressed stone foundations are visible on the ridge above the furnace. Their original size and function could be determined through archeological investigation. There are many charcoal deposits on top of the ridge near the charging deck location.



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## History

Raven Cliff Furnace has gone through many name and ownership changes. It was at various times called the Bell and Kincannon Iron Works (1810-1857), Wilkinson's Furnace (1857-1861) and the John W. Green Furnace (1861-1879) before receiving its present name in 1879.

Raven Cliff Furnace was first constructed in 1810 for Joseph Bell and Andrew Kincannon. The cold-blast charcoal-burning stack was 29' high, 9' wide at the bosh, and built of local dressed stone. The furnace used hematite ore from a bank four miles away. In 1837 the Kincannons were unable to compete with iron production from the north and had to abandon the furnace. In 1856 William Wilkinson made a short-lived attempt to revive the furnace, which he renamed Wilkinson's Furnace.

During the Civil War, R. W. Sanders, John W. Green and several others owned the furnace. Anderson of the Tredegar Iron Works in Richmond convinced Sanders to bring it back into blast to support the Confederate war effort. The furnace was rebuilt in 1861 and was called the John W. Green Furnace until 1879.

The furnace continued to produce pig iron during Reconstruction. It was again rebuilt in 1875 and sold to Crocket, Sanders & Co. (the company changed its name to Crocket & Co. three years later). The furnace name was changed back to Raven Cliff in 1879. Raven Cliff was productive, and was in blast in the years 1880 through 1883. It was transferred to Wythe & Speedwell Mining & Iron Manufacturing Co. in 1886. It changed hands many more times before being abandoned in 1893 due to transportation difficulties, among other problems.

Throughout its operation Raven Cliff Furnace was cut off from easy routes of transportation. During the later years of Raven Cliff's operation the Cripple Creek extension of the Norfolk & Western Railroad had a spur line into the site. This development, however, came too late in the life of Raven Cliff Furnace to save it. Raven Cliff could not compete with the extensive iron production of the Great Lakes Region.

Raven Cliff Furnace is currently used as an interpretive area of the Jefferson National Forest Campground.

## Significance and Integrity

Raven Cliff iron furnace is representative of the importance of the iron industry in the Valley of Virginia during the nineteenth century. The furnace reflects the trends in furnace construction in Virginia during this time period. It was built in 1810 on the plan common to the early nineteenth century, and was later rebuilt two times to incorporate new technology.

Raven Cliff was an important part of the iron industry of Virginia. Its activities altered the local landscape through deforestation for charcoal production, and brought money and people into the area of the Virginia valley. The Furnace gained national importance as a key producer of iron for the Confederacy during the Civil War.

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The potential for archeological investigation is significant at Raven Cliff Furnace. Research could provide information about workers' living conditions, ethnicity, and economic background. Transportation of raw materials and finished products could be investigated as well as the relations between the rural furnace and the urban manufacturer, Tredegar Iron Works. The furnace and surrounding features and landscape may contribute information about iron extraction technology, innovation, and change through time.

Raven Cliff Furnace retains a high degree of integrity. Limited subsurface testing demonstrated a high potential for information to be gathered through archeology (Barber 1982). The area contains intact information that could contribute to our understanding of the nineteenth century iron industry in Virginia.

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### **Bibliography**

Barber, Michael B.

1982 National Register of Historic Places Inventory Nomination Form for Raven Cliff Furnace and Archaeological Site 44WY57.

Capron, John D.

1968 *Raven Cliff Furnace, Wythe County*. Personal Files of John D. Capron. Typescript dated Dec. 11, 1968. Lynchburg College, Virginia.

Hotchkiss, Jed, editor

1880-1883 *The Virginias*.

Lesley, J. Peter

1859 *The Iron Manufacturers Guide to the Furnaces, Forges and Rolling Mills of the United States*. New York: Wiley.

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### **Boundaries**

The boundary extends approximately 2000 feet south along Cripple Creek from a bridge in the north to the confluence with Rock Creek, and west along Rock Creek beyond the foundations and charcoal pits. The western boundary line between Cripple Creek and Rock Creek is approximately 500 feet. The boundary includes the furnace, race, charcoal pits, wheel pit and other evidence of supporting structures. All areas that retain a high level of integrity and are likely to yield information about the nineteenth century Virginia iron industry are included in the boundary.