

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

(Type all entries - complete applicable sections)

STATE: Maryland	
COUNTY: Cecil	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE

1. NAME

COMMON:
Principio Furnace

AND/OR HISTORIC:
Principio Iron Furnace; Principio Iron Works

2. LOCATION

STREET AND NUMBER:
South side of Post Road, 1 1/2 miles east of Perryville

CITY OR TOWN:
Perryville

STATE: Maryland CODE: 24 COUNTY: Cecil CODE: 015

3. CLASSIFICATION

CATEGORY (Check One)	OWNERSHIP	STATUS	ACCESSIBLE TO THE PUBLIC
<input type="checkbox"/> District <input type="checkbox"/> Building <input type="checkbox"/> Site <input checked="" type="checkbox"/> Structure <input type="checkbox"/> Object	<input type="checkbox"/> Public <input checked="" type="checkbox"/> Private <input type="checkbox"/> Both	Public Acquisition: <input type="checkbox"/> In Process <input type="checkbox"/> Being Considered	<input checked="" type="checkbox"/> Occupied <input type="checkbox"/> Unoccupied <input type="checkbox"/> Preservation work in progress
PRESENT USE (Check One or More as Appropriate)			
<input type="checkbox"/> Agricultural <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Educational <input type="checkbox"/> Entertainment	<input type="checkbox"/> Government <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Military <input type="checkbox"/> Museum	<input type="checkbox"/> Park <input checked="" type="checkbox"/> Private Residence <input type="checkbox"/> Religious <input type="checkbox"/> Scientific	<input type="checkbox"/> Transportation <input type="checkbox"/> Other (Specify) _____ <input type="checkbox"/> Comments _____

4. OWNER OF PROPERTY

OWNER'S NAME:
Whitaker Iron Company

STREET AND NUMBER:
Laconia Building

CITY OR TOWN:
Wheeling

STATE: West Virginia CODE: 54

5. LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC.:
Cecil County Courthouse

STREET AND NUMBER:
Main Street, on the corner of North Street

CITY OR TOWN:
Elkton

STATE: Maryland CODE: 24

6. REPRESENTATION IN EXISTING SURVEYS

TITLE OF SURVEY:
Maryland Register of historic sites and landmarks

DATE OF SURVEY: 1970 Federal State County Local

DEPOSITORY FOR SURVEY RECORDS:
Maryland Historical Trust

STREET AND NUMBER:
94 College Avenue

CITY OR TOWN:
Annapolis

STATE: Maryland CODE: 21401 DATE: 24

SEE INSTRUCTIONS

STATE: Maryland

COUNTY: Anne Arundel

FOR NPS USE ONLY

ENTRY NUMBER

DATE

7. DESCRIPTION

CONDITION	(Check One)					
	<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input type="checkbox"/> Fair	<input checked="" type="checkbox"/> Deteriorated	<input type="checkbox"/> Ruins	<input type="checkbox"/> Unexposed
	(Check One)			(Check One)		
	<input type="checkbox"/> Altered	<input checked="" type="checkbox"/> Unaltered		<input type="checkbox"/> Moved	<input checked="" type="checkbox"/> Original Site	
DESCRIBE THE PRESENT AND ORIGINAL (If known) PHYSICAL APPEARANCE						
<p>Principio Furnace, the first blast furnace in the state of Maryland, and one of the first in the nation, is located near Perryville, Cecil County, Maryland. The furnace site is on the banks of Principio Creek at the head of the Chesapeake Bay. The site, approximately 75 miles from Washington, D. C., is on either side of Maryland route 7 about 2 miles northeast of Perryville. Designated by an historical marker, it is presently inaccessible to the public.</p> <p>Of the "50,000 tons of pig & bar iron imported from G. B. to Md. between 1718-1755, perhaps 1/2 came from the [original] furnace[s] owned by the [Principio] Company." (Douglas pg.5,sec.9)</p> <p>A third furnace, the one standing in 1970, was constructed in 1836 by the predecessors of the 1970 property owners, the Whitaker Iron Company, and was in blast until 1894.</p> <p>An 1840 description of the undetermined site says that the hearth from the original (1723) furnace was still standing in 1840. In 1890 the fourth and last furnace was built at Principio. When iron production at this site was discontinued after World War I, this furnace was dismantled and sold. The site has remained in essentially the same condition since the dismantling of the last furnace. There were at least four furnaces at one time or another. The other furnaces and forges are no longer above ground, having been destroyed or dismantled.</p> <p>Near the 1836 extant furnace is a turbine which is connected with a blowing machine through a series of gears. Behind the furnace is a large heater which provided a hot blast for this furnace. The heater and blowing machine were probably built after the furnace, but the date of construction has not yet been determined.</p> <p>In the area surrounding the furnace is a large number of buildings; some have little connection with the production of iron, but were undoubtedly important in the everyday life of those who worked at the furnace. This relatively self-sustaining community provided food, shelter and clothing for those who worked there.</p> <p>One of the more interesting of the structures at Principio is a circular, brick charcoal-burner which, according to local authorities, was used only once. The excellent condition of the exterior of the structure and the rather thin layer of carbon on the inside confirm this assertion.</p> <p>There are buildings in the area constructed at various times. No attempt to "freeze" Principio to one date need be made in relation to any restoration work to be done. . The lack (see continuation sheet)</p>						

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(Number all entries)

Principio Furnace

#6. REPRESENTATION IN EXISTING SURVEYS continued

Historic American Buildings Survey

1969

Library of Congress
Washington, D. C.

code: 11

#7. DESCRIPTION continued

of consistency in styles can be turned into an advantage by using the buildings to indicate the growth and decline of the industry at Principio. The representation of Principio at a certain date can be shown by means of illustrations and displays.

The process of manufacturing iron can be shown by the location of foundations, dams, races and the natural configuration of the area. Since the 1836 furnace is in such good condition, all efforts should be made to restore the furnace, the blowing machinery, and the hot blast heater.

The Principio Furnace Post Office building would provide an excellent visitor information center since it is located on Route 7 and is one of the first structures that one sees on the site.

Other structures on the property include the following:

- A brick machine shop
- A brick shed
- A brick wheelwright's shop
- A brick saw mill and tool shop
- A wooden scrap shed
- A wooden charcoal shed
- A wooden mule barn
- A wooden blacksmith's shop
- A wooden building used as a post office until 1836
- A wooden building constructed in 1836 and used as a post office and as a company office
- Three wooden houses probably used by laborers
- Two houses of undetermined use
- An ironmaster's house built in 1837 and presently occupied by the caretaker for the Whitaker Iron Company

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Principio Furnace

#7. DESCRIPTION continued

The condition of the structures varies. Some, like the 1836 post office and works office, the ironmaster's house and the charcoal-burner are in excellent condition; others, like the wooden charcoal shed and scrap shed, are about to collapse. At least half of the buildings on the site, including the 1836 furnace, are in good condition.

Since there has never been any extensive archeological excavation at the Principio site, there are very few objects relating to iron-making at Principio known to exist in private or public collections.

The following items are known or presumed to have come from Principio:

- a) A pig of iron found near the location of the original furnace and stamped "Principio 1727"
- b) Several pigs of iron marked "Principio*1751" found in the bed of the Patapsco River
- c) A cannon found in Chesapeake Bay and stored today in a barn at Principio
- d) Several iron buckets used to hoist raw materials into the furnace
- e) A charcoal wagon made and used at Principio and presently on display at the Hopewell Furnace site in Pennsylvania
- f) Two log-carriers recently discovered inside the charcoal-burner at Principio

It seems likely that a survey of the artifact collections of various iron companies (the most obvious being the Whitaker Iron Company), museums and historical societies would reveal the existence of more objects. The most promising source, however, is the site itself, which should yield innumerable objects in an archeological "dig."

The Principio site provides a unique opportunity to become involved in the area of "industrial archeology." Here would be the restoration of a furnace which was vital to the economic and technological growth of our nation.

The presence of the Smithsonian Institution committee to be involved in the restoration might involve a "dig" at the Principio site as a part of a program in Material Culture or as a separate field of study. Archeological activity at Principio would provide experience for the student or professional in the field of archeology, and would expand the methodology of the more academ-

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Principio Furnace

#7. DESCRIPTION continued
ically oriented student and scholar.

The beneficiaries of this project would be the citizens of Maryland, the professional staff of the Smithsonian, and students in archeology, museology and history. As well as being a workshop for the educational programs of the Smithsonian, a restored Principio Furnace site would be a tribute to the imagination and foresight of this institution.

The restoration at Principio should be as extensive as possible without distorting the actual conditions and history. Some structures, such as the machine shop, although structurally sound, would need extensive interior restoration; others, like the charcoal-burner, require little restoration.

The Department of Forests and Parks' definite interest in restoring the furnace suggests that the funds, manpower and heavy equipment be furnished by the state; the technical advice and assistance be generated from the Smithsonian Institution.

Techniques similar to those used in the more "traditional" restoration would be dealing with structures which have heretofore been ignored by those concerned with restoration. Notable exceptions, of course, are the restorations of the iron works at Saugus, Massachusetts, and at Cornwall and Hopewell in Pennsylvania.

#8. SIGNIFICANCE continued

In 1719 the General Assembly of Maryland promoted the need for iron production and passed an act to encourage such manufacturing. It said in part:

That if any person or persons shall desire to set up a forging mill or other conveniences for carrying on Iron Works on lands not before cultivated adjoining a stream, he may get a writ ad quod damnum. On the return of this, if the owner refuses to build such a mill and gives securities to complete it within four years, the governor may grant one hundred acres, the owner being paid for it.

As a result of this act a large number of acres was purchased by

(3 of 6 continuation sheets)

8. SIGNIFICANCE

PERIOD (Check One or More as Appropriate)

<input type="checkbox"/> Pre-Columbian	<input type="checkbox"/> 16th Century	<input checked="" type="checkbox"/> 18th Century	<input type="checkbox"/> 20th Century
<input type="checkbox"/> 15th Century	<input type="checkbox"/> 17th Century	<input checked="" type="checkbox"/> 19th Century	

SPECIFIC DATE(S) (If Applicable and Known) 1723, 1823, 1890, 1970

AREAS OF SIGNIFICANCE (Check One or More as Appropriate)

<input type="checkbox"/> Aboriginal	<input type="checkbox"/> Education	<input type="checkbox"/> Political	<input type="checkbox"/> Urban Planning
<input type="checkbox"/> Prehistoric	<input type="checkbox"/> Engineering	<input type="checkbox"/> Religion/Philosophy	<input type="checkbox"/> Other (Specify)
<input type="checkbox"/> Historic	<input checked="" type="checkbox"/> Industry	<input type="checkbox"/> Science	<u>industrial</u>
<input type="checkbox"/> Agriculture	<input type="checkbox"/> Invention	<input type="checkbox"/> Sculpture	<u>archaeology &</u>
<input type="checkbox"/> Architecture	<input type="checkbox"/> Landscape Architecture	<input type="checkbox"/> Social/Humanitarian	<u>architecture</u>
<input type="checkbox"/> Art	<input type="checkbox"/> Literature	<input type="checkbox"/> Theater	_____
<input type="checkbox"/> Commerce	<input type="checkbox"/> Military	<input type="checkbox"/> Transportation	_____
<input type="checkbox"/> Communications	<input type="checkbox"/> Music		_____
<input type="checkbox"/> Conservation			_____

STATEMENT OF SIGNIFICANCE

Being the first iron furnace in Maryland and one of the first in the country, the Principio Furnace, along with the other holdings of the company, gave impetus to the growth of an iron industry and stimulated the economy of eighteenth-century America. It has been estimated that of the approximately 50,000 tons of pig and bar iron imported to Great Britain from Maryland between 1718 and 1755, perhaps half came from the furnaces owned by the Principio Company. The Principio Furnace contributed to the war effort in the Revolutionary War and the War of 1812 by supplying cannon balls to the American troops, thereby making it relevant to our military history. Until the British destroyed the iron-making facilities at Principio, cannon and cannon balls were produced at this site during the War of 1812. George Washington's father, Augustine, was intimately connected with the Principio Company and its fortunes. He supplied ore for use at Principio Furnace, and helped to manage the Accocek Furnace after it was found more economical to smelt ore near the mines than to ship it to Principio Furnace. Augustine Washington held a one-twelfth interest in the Principio Company. The eighteenth-century need for rehabilitating British iron production precipitated the first international iron trade leading to the construction of a furnace in the colonies.

In 1714 a group of English businessmen organized a company in England for the purpose of promoting the production of iron in America to supplement the diminishing production and increasing need in England. The group, later organized as the Principio Company, consisted of Joshua, Samuel and Ozgood Gee; William Chetwynd; and Sir Nicholas Carew. The following year (1715) Joseph Farmer was sent to the new country to explore the possibilities of setting up iron-processing facilities; and by 1716 Stephen Onion, William and Thomas Russell, and twenty indentured servants (all experienced iron-makers) began to produce small quantities of iron on land in Maryland purchased by the company. It seems likely that the iron made prior to 1720 came from a bloomery in North East, Maryland, that was in existence as early as 1716. During the same time construction was begun on a forge at the same site.

(see continuation sheet)

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Principio Furnace

#8. SIGNIFICANCE continued

the Principio Company in 1721 and 1722. Included in the acquisitions was the land bordering Principio Creek, where, by 1722, the construction of the first blast furnace in the province had begun. The furnace, known as "Principio" because of its unique status in the colony, was completed in 1723, although the first blast did not take place until the following year. Realizing that the quantity of ore in the immediate vicinity of the furnace was limited, the company acquired the rights to the ore on Gorsuch Point (located on the east side of the Patapsco River opposite Fort McHenry), from whence boats carried the ore to the Principio Furnace.

By 1725 the company had erected a forge at Principio and had begun to expand its operations to Virginia. John England, the manager of the Principio Company in America, entered into negotiations with Augustine Washington, the father of the President, concerning the ore deposits on his property near Accocek Creek, inland from the Potomac River about seven miles and nine miles north of Fredericksburg. In 1726 an agreement was reached whereby Augustine Washington was to supervise the mining of the ore on his land and deliver it by wagon to the nearest landing on the Potomac River. The Principio Company bargained to transport the ore from the wharf to its furnace at Principio, smelt it, and pay Augustine Washington twenty shillings for each ton of iron smelted. By 1727 the company decided to build a furnace at Accocek (which was in full blast by the end of the year), and in subsequent negotiations Augustine Washington was given a one-twelfth interest in the Principio Company.

The records of the company show that in August of 1727 the furnace at Principio produced 40 tons of pig iron. The ledger of that month gives the following costs for producing such an amount:

Account of Pigs at Furnace, August, 1727

	L	s	d
Iron ore, 90 tons at 15s.....	67	10	0
Charcoal, 90 loads (11,880 bu.), @18s.....	81	0	0
Oyster shells and limestone.....	55	0	0
Wages, John Barker, founder, 40 tons @2/6.	5	0	0
Other labor, 40 tons @5/6.....	11	0	0
Disbursements.....	2	0	0
Total production, 40 tons of pig iron, at cost of.....	171	10	0

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Principio Furnace

#8. SIGNIFICANCE continued

The iron from the furnace at Principio was praised by Emmanuel Swedenborg in De Ferro, published in 1734:

There are several furnaces for the smelting of iron ore, as well as works for the smelting of raw iron, not so very long since built. The principal work is called Principio, in the upper part of the province of Maryland, upon the river called Principio, from which it also derives its name; its water is said to fall from a height of 25 feet. At this iron work little two-oared boats and little ships land laden with iron ore, which is dug 50 miles from there. The ore is said to be of a white or gray color, not unlike the vases of Holland pottery, containing 50 per cent. of iron. The iron from this ore is said to carry off the palm from the rest.

In the first half of the century the Principio Company added to its holdings by building the Kingsbury Furnace in Baltimore County and by purchasing the Lancashire Furnace, which was probably located on the Patapsco River. The assets of the company by the middle of the 18th century are described by Henry Whitely, who wrote an historical sketch of the Principio company in 1887:

By 1751 it outranked all competitors and was sole proprietor of four furnaces and two forges: Principio furnace and forge, Cecil County, Maryland... North East Forge, Cecil County, Maryland, built about 1720; Accoceek furnace Virginia, built about 1725; Kingsbury furnace...built about 1744; Lancashire furnace...purchased in 1751.

They owned slaves and live stock in abundance: their tracts of land, chiefly woodland, for coaling, were of vast extent, amounting in the aggregate to nearly 30,000 acres in Maryland alone ...and one-half of the pig iron exported to Great Britain from this country came from their works.

The decline of the Principio Company came with the Revolutionary War. After the outbreak of hostilities the company no longer had control of its property; however, bar iron and cannon balls were supplied to the Continental troops at this time. In 1780 the Maryland General Assembly confiscated the property at

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Principio Furnace

#8. SIGNIFICANCE continued

Principio, and activity ceased until 1785, when the land was purchased from the State and a blast furnace (the second at the Principio site) was erected a few hundred yards south of the original furnace. During the War of 1812 cannon and cannon balls were made at the Principio iron-works, but this activity ceased when the British, under the command of Admiral Cockburne, landed in barges in Furnace Bay, destroyed the furnace and whatever cannon and balls they found, and set fire to the other structures in the area.

A recent archaeological examination concentrated around the present furnace, constructed in 1836 by the predecessors of the Whitaker Iron Company, and in blast until 1894, although some of the structures in the surrounding area were examined. After a day of digging, cleaning and measuring, the excellent condition of the furnace and of the machinery used to force air into the furnace was revealed. On this one day several previously undiscovered objects were uncovered by the workers.

In 1890 the fourth and last furnace was built at Principio. When iron production at the Principio site was discontinued after World War I, this furnace was dismantled and sold.

#9. MAJOR BIBLIOGRAPHICAL REFERENCES continued

(cont.) and Civil Engineering, Museum of History and Technology, Smithsonian Institution, Washington, D. C. October 1968. Files of the Maryland Historical Trust, Annapolis, Maryland 21401.

[Vogel, Robert]. "The Principio Iron Furnace, Principio Furnace (near Perryville), Cecil County, Maryland." (1968). Files of the Maryland Historical Trust, Annapolis, Maryland 21401.

Works Progress Administration. Maryland A Guide to the Old Line State. New York: Oxford, 1940.

9. MAJOR BIBLIOGRAPHICAL REFERENCES

Recorder: Ann D. Parish, Keeper of the Maryland Register, Maryland Historical Trust, 94 College Avenue, Annapolis, Maryland 21401.

Douglas, Paul, "A Report Concerning the Possibilities of Restoring Principio Furnace, the First Furnace in Maryland and Containing Some Comments on the Desirability of the Smithsonian Institution Taking an Active Part in the Process of Restoration." Division of Mechanical (cont.)

10. GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY			O R	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES		
CORNER	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	
	Degrees Minutes Seconds	Degrees Minutes Seconds		Degrees Minutes Seconds	Degrees Minutes Seconds	
NW	39 ° 34 ' 47 "	76 ° 02 ' 11 "				
NE	39 ° 34 ' 45 "	76 ° 01 ' 38 "				
SE	39 ° 34 ' 17 "	76 ° 01 ' 40 "				
SW	39 ° 34 ' 19 "	76 ° 02 ' 13 "				

APPROXIMATE ACREAGE OF NOMINATED PROPERTY: 185 acres

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

STATE:	CODE	COUNTY	CODE

11. FORM PREPARED BY

NAME AND TITLE:
Mrs. Preston Parish, Keeper of the Maryland Register

ORGANIZATION: Maryland Historical Trust DATE: June 24, 1971

STREET AND NUMBER:
94 College Avenue

CITY OR TOWN: Annapolis STATE: Maryland 21401 CODE: 24

12. STATE LIAISON OFFICER CERTIFICATION

As the designated State Liaison 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. The recommended level of significance of this nomination is:

National State Local

Name Orlando Ridout IV
Orlando Ridout IV
Title State Liaison Officer
For Maryland
Date July 8, 1971

NATIONAL REGISTER VERIFICATION

I hereby certify that this property is included in the National Register.

Chief, Office of Archeology and Historic Preservation

Date _____

ATTEST:

Keeper of The National Register

Date _____

SEE INSTRUCTIONS



UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES
PROPERTY PHOTOGRAPH FORM**

(Type all entries - attach to or enclose with photograph)

STATE Maryland	
COUNTY Cecil	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE

MHT
CE-112

SEE INSTRUCTIONS

1. NAME			
COMMON: Principio Furnace			
AND/OR HISTORIC: Principio Iron Furnace; Principio Iron Works			
2. LOCATION			
STREET AND NUMBER: South side of Post Road, 1 1/2 miles east of Perryville			
CITY OR TOWN: Perryville			
STATE: Maryland	CODE 24	COUNTY: Cecil	CODE 015
3. PHOTO REFERENCE			
PHOTO CREDIT: Smithsonian Institution			
DATE OF PHOTO: April 1968			
NEGATIVE FILED AT: Division of Mechanical & Civil Engineering Smithsonian Institution, Washington, D. C. 20560			
4. IDENTIFICATION			
DESCRIBE VIEW, DIRECTION, ETC. Blast-air heater (1) and furnace stack			

NATIONAL REGISTER OF HISTORIC PLACES

PROPERTY PHOTOGRAPH FORM

(Type all entries - attach to or enclose with photograph)

Maryland	
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PHOTO CREDIT: Smithsonian Institution			
DATE OF PHOTO: April 1968			
NEGATIVE FILED AT: Division of Mechanical & Civil Engineering Smithsonian Institution, Washington, D. C. 20560			
4. IDENTIFICATION			
DESCRIBE VIEW, DIRECTION, ETC.			
<p>Penstock and water turbine for drive of blowing engine c. 1880</p>			



NATIONAL REGISTER OF HISTORIC PLACES
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PHOTO CREDIT: Smithsonian Institution			
DATE OF PHOTO: April 1968			
NEGATIVE FILED AT: Division of Mechanical & Civil Engineering Smithsonian Institution, Washington, D. C. 20560			
4. IDENTIFICATION			
DESCRIBE VIEW, DIRECTION, ETC. Furnace stack of 1836			



NATIONAL REGISTER OF HISTORIC PLACES
PROPERTY MAP FORM

(Type all entries - attach to or enclose with map)

STATE	
Maryland	
COUNTY	
Cecil	
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ENTRY NUMBER	DATE

SEE INSTRUCTIONS

1. NAME			
COMMON: Principio Furnace			
AND/OR HISTORIC: Principio Iron Furnace; Principio Iron Works			
2. LOCATION			
STREET AND NUMBER:			
South side of Post Road, 1 1/2 miles east of Perryville			
CITY OR TOWN:			
Perryville			
STATE:	CODE	COUNTY:	CODE
Maryland	24	Cecil	015
3. MAP REFERENCE			
SOURCE:			
USGS 7.5 minute map; Havre de Grace Quadrangle			
SCALE: 1: 24 000			
DATE: 1964			
4. REQUIREMENTS			
TO BE INCLUDED ON ALL MAPS			
1. Property boundaries where required.			
2. North arrow.			
3. Latitude and longitude reference.			

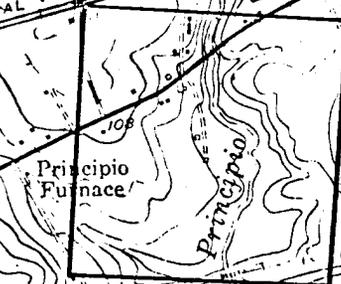
HAVRE DE GRACE QUADRANGLE
USGS 7.5 minute map
scale: 1: 24 000
1964

lat. 39° 34' 47"
long. 76° 02' 11"

lat. 39° 34' 45"
long. 76° 01' 38"

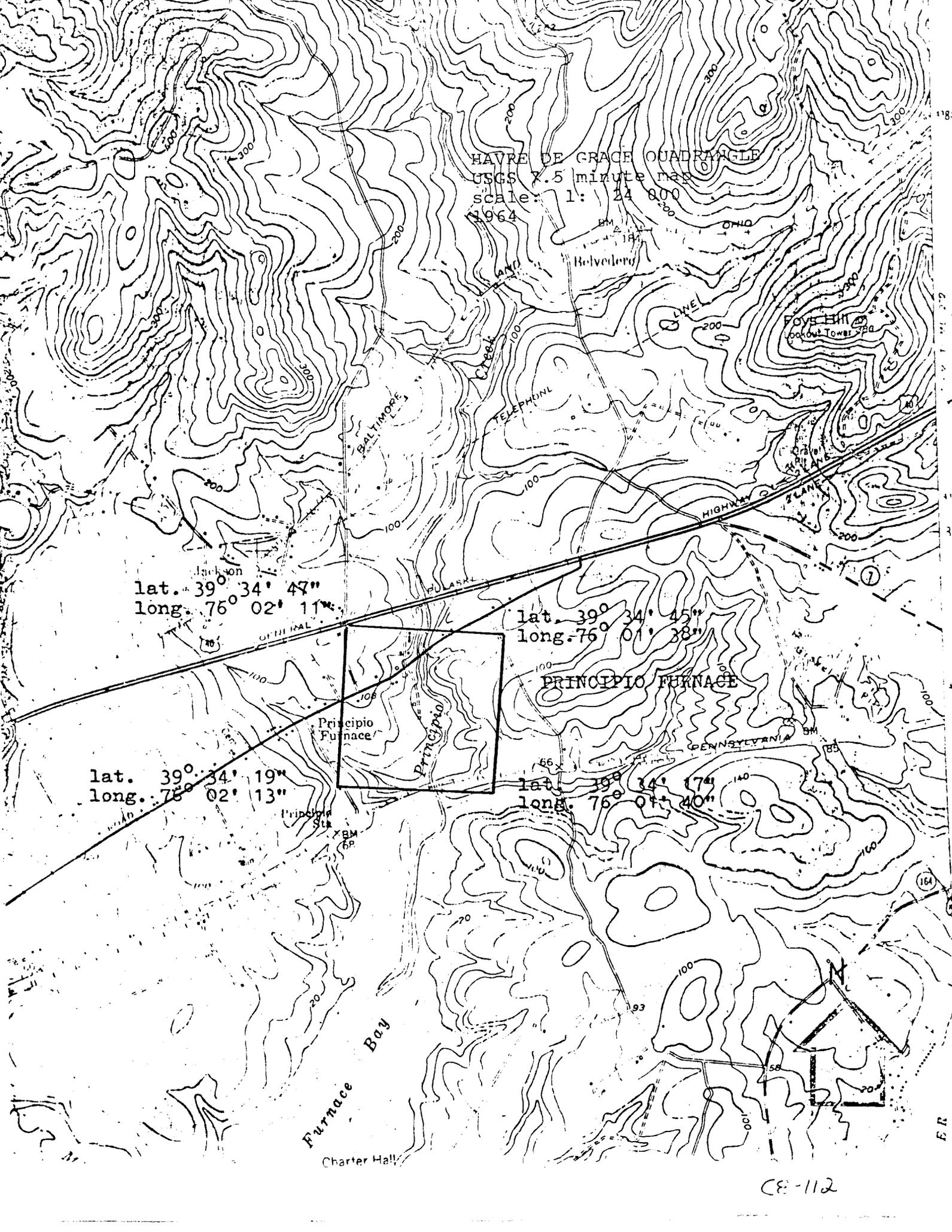
lat. 39° 34' 19"
long. 76° 02' 13"

lat. 39° 34' 17"
long. 76° 01' 40"



Furnace Bay
Charter Hall

CE-112



← TO PENNAPVILLE

MD RT 7 (POST ROAD)

PRINCIPIO STATION ROAD

CE-112A

CE-1499

CE-1500

CE-1501

CE-1502

CE-1503

CE-1506

CE-1504

CE-1507

CE-1505

CE-1509

CE-1508

CE-1510

CE-1511

CE-1512

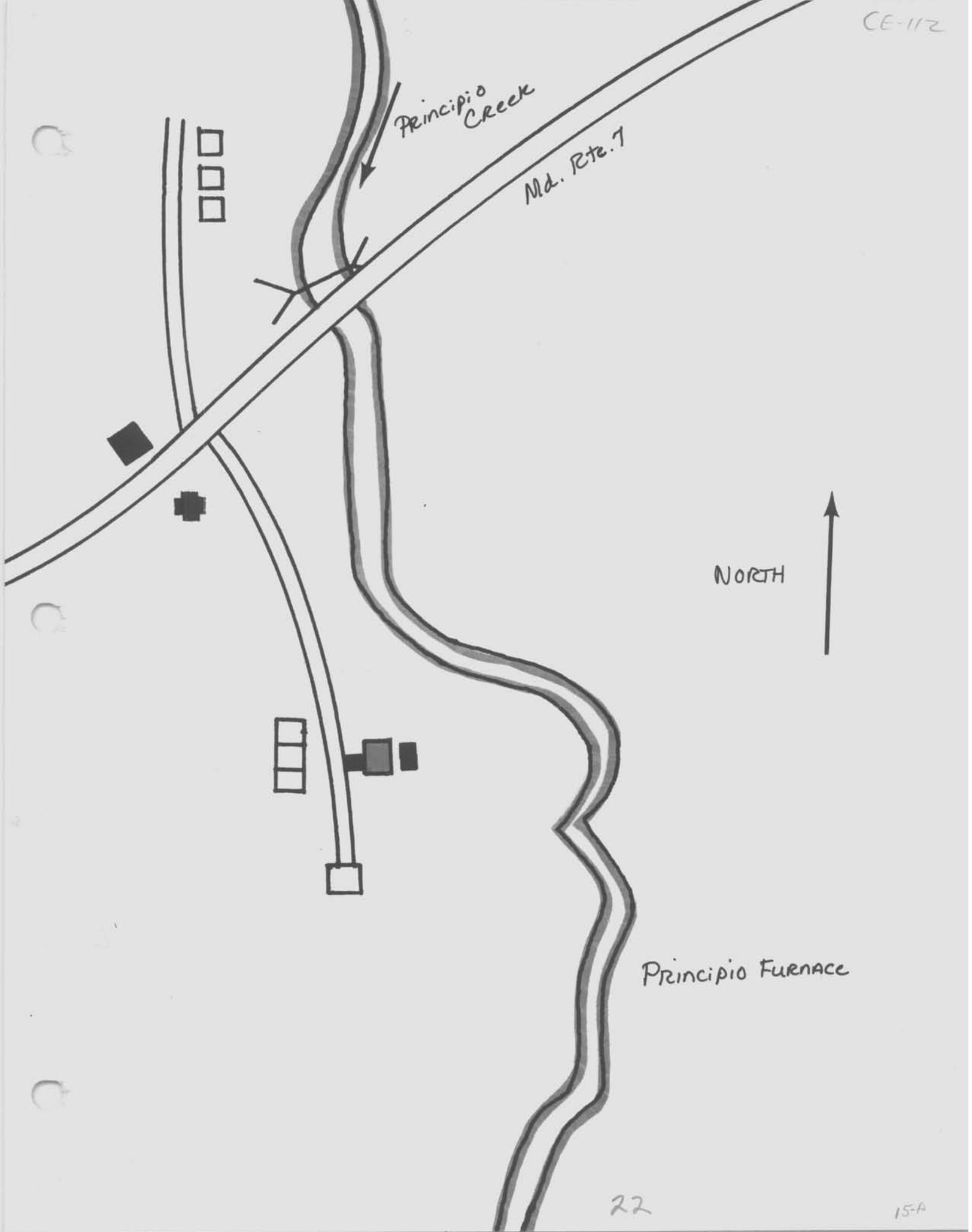
PRINCIPIO CREEK



NO SCALE

Principio Inland Wetlands
RESOURCE SKETCH MAP
MAY 1998

Principio Furnace Cecil County Maryland





16)

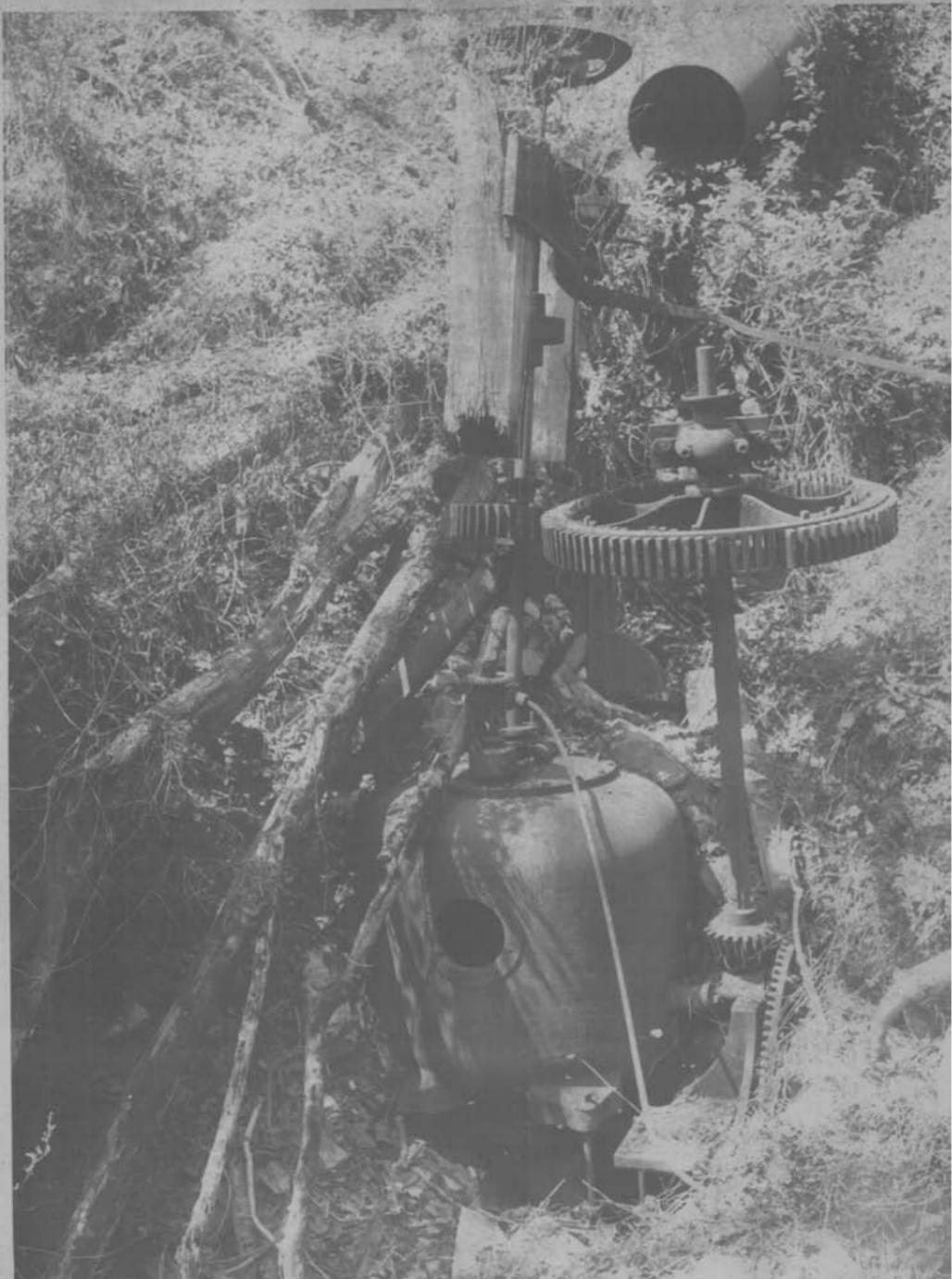
IF REPRODUCED OR RESULT
CREDIT SHOULD BE GIVEN

THE SMITHSONIAN INSTITUTION
NEGATIVE #

Air heater & furnace, Principio, Md.

4/68

(Photostat neg.)



CE 112

Principio Furnace, Cecil Co., Md.

Turbine & gearing (replaced overhead wheel)
for driving blowing engine of 1836 furnace

Turbine installed \pm 1875.

USNM 4X5 negative

April 1968 photo



Principis Furnace

CE 112

Cecil Co., Md.

1856 furnace stack.

USNM 4X5 photo April 1968



1.

VF

24091
Image
5
by
photo - processing

photography by:

4/1971

Furnace Stack with blowing engine. Principio Furnace CE-112

MICHAEL ROBBINS
PHOTOGRAPH



3.

Principio Furnace

3. Dam, north of Maryland Route 7

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MICHAEL ROBERTS
PHOTOGRAPH



PRINCIPIO FURNACE, CECIL COUNTY, EASTERN SHORE, MARYLAND

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VI

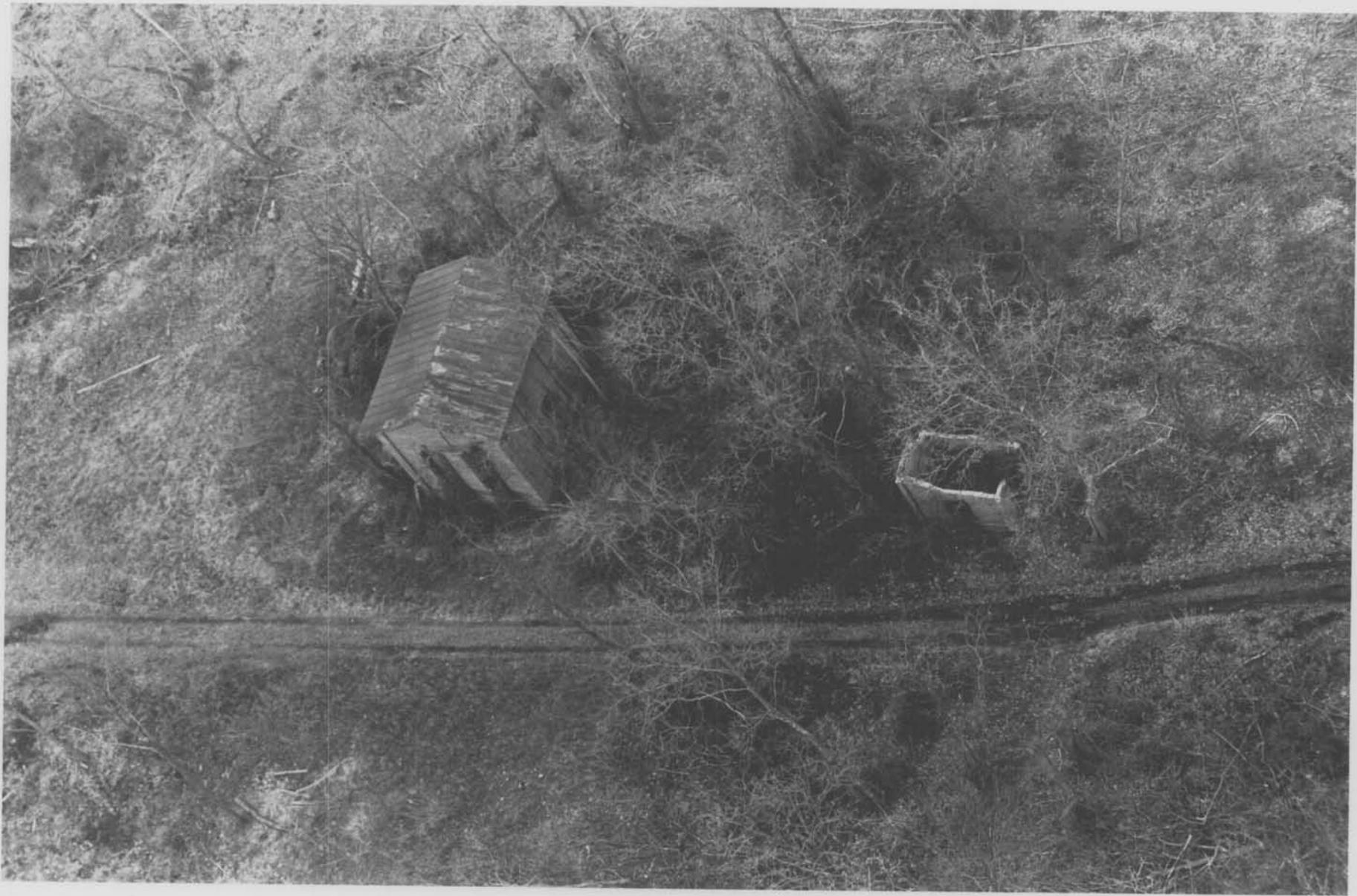


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Principio Furnace

Principio

Negatives at MIT



Principio Furnace
7. Auxiliary Buildings

CE-112

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Principio Regas - 10/1

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