

United States Department of the Interior
Heritage Conservation and Recreation Service

**National Register of Historic Places
Inventory—Nomination Form**

For HCRS use only

received JUN 9 1981

date entered JUL -9 1981

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic The Chapin Mine Steam Pump Engine

and/or common The Cornish Pump

2. Location

street & number Kent Street at Kimberly Avenue not for publication

city, town Iron Mountain vicinity of Eleventh congressional district

state Michigan 49801 code 26 county Dickinson code 043

3. Classification

Category	Ownership	Status	Present Use
<input type="checkbox"/> district	<input checked="" type="checkbox"/> public	<input checked="" type="checkbox"/> occupied	<input type="checkbox"/> agriculture
<input type="checkbox"/> building(s)	<input type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input type="checkbox"/> commercial
<input checked="" type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input checked="" type="checkbox"/> yes: restricted	<input type="checkbox"/> government
	<input type="checkbox"/> being considered	<input type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial
		<input type="checkbox"/> no	<input type="checkbox"/> military
			<input checked="" type="checkbox"/> museum
			<input type="checkbox"/> park
			<input type="checkbox"/> private residence
			<input type="checkbox"/> religious
			<input type="checkbox"/> scientific
			<input type="checkbox"/> transportation
			<input type="checkbox"/> other:

4. Owner of Property

name Dickinson County Board of Supervisors

street & number 700 S. Stephenson Avenue

city, town Iron Mountain vicinity of Michigan state 49801

5. Location of Legal Description

courthouse, registry of deeds, etc. Dickinson County Register of Deeds

street & number The Courthouse, 700 S. Stephenson Avenue

city, town Iron Mountain state Michigan 49801

6. Representation in Existing Surveys

An Architectural Survey of the Western Upper Peninsula (MHD-MSU)

title HAER, The Upper Peninsula of Michigan has this property been determined eligible? yes no

date 1975, 1977 federal state county local

depository for survey records Michigan History Division

city, town Lansing state Michigan 48918

7. Description

Condition

excellent
 good
 fair

deteriorated
 ruins
 unexposed

Check one

unaltered
 altered

Check one

original site
 moved date 1907

Describe the present and original (if known) physical appearance

Located at the intersection of Carpenter Avenue and Kent Street on a hilltop one-half mile west of U.S. 2 and 41 in Iron Mountain near the site of the Ludington "C" shaft, the Chapin Mine Steam Pump Engine (Cornish Pump) is a monumental steam-driven pumping engine built to de-water the Chapin Mine. Designed in 1890 by Edwin P. Reynolds, chief mechanical engineer of the E. P. Allis Company of Milwaukee, and patterned after similar pumps used at tin mines in Cornwall, England, the Cornish Pump served the Chapin Mine from 1893 to 1896. Purchased by the Oliver Iron Mining Company in 1907, the Cornish pump de-watered the combined Chapin, Ludington and Hamilton mines until its replacement by electrically-driven pump equipment in 1914.

The Cornish pump stands fifty-four feet tall with a 110 ton flywell measuring forty feet in diameter moving at an average speed of ten revolutions per minute. The "slot" for the flywell stands twenty feet below the engine bed with a drive-shaft measuring twenty-four inches in diameter and a ten foot piston stroke. Total installation costs for the entire pumping plant were \$250,000 and its total weight was a staggering 725 tons. When constructed, the Cornish pump was the largest steam-driven pumping engine of its kind ever built in America.

The pumping equipment used a reciprocating motion to a line of steel rods extending 1500 feet below the surface with eight pumps attached at intervals of 170 to 192 feet. Each of the pumps forced water to the next higher pump and finally to the mine surface. The engine's capacity of 3,400 gallons per minute sufficiently handled the Chapin's normal flow about 3,000 gallons per minute.

In 1914, the Oliver Iron Mining Company replaced this steam-operated engine with electrical pumps. Unable to adapt to the drive of the new pumps beneath her, the Cornish pump stood idle until mining activity totally ceased at the Chapin in 1934.

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 type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input checked="" type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater
<input checked="" type="checkbox"/> 1900-1914	<input type="checkbox"/> communications	<input checked="" type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> transportation
		<input checked="" type="checkbox"/> invention		<input type="checkbox"/> other (specify)

Specific dates 1890-1891 **Builder/Architect** Edwin P. Reynolds, engineer of the E. P. Allis Company, Milwaukee

Statement of Significance (in one paragraph)

The Chapin Mine Steam Pump Engine (The Cornish Pump) has engineering significance as the largest steam pump of its type ever built in America. It has historic significance for its link to Iron Mountain's origins, and for its use in dewatering the mighty Chapin mine between 1893 and 1914.

Dr. Nelson P. Houlst, a chemist with the Milwaukee Iron Company, detected significant ore traces on the Menominee Range at Section 30, Chapin's Location, in 1878. John Wicks and a party of seven men arrived on the scene the following July to confirm Houlst's accurate findings. The discovery of a rich iron ore vein on the land, owned reluctantly by Henry A. Chapin (1813-1898) of Niles to satisfy a past debt, led to the plotting of the village of Iron Mountain in October 1879. By December Chapin had moved to Iron Mountain, assembled capital, and formed the Chapin Mine Company.

As five mine shafts pierced the land, Chapin unearthed a yield of 34,000 tons of high-quality Bessemer iron ore in 1881. The Michigan Commissioner of Mines noted that the Chapin was already the largest ore production mine on the Menominee Range in the state of Michigan. Production totaled 27 million tons of iron ore at the Chapin mine between 1880 and 1934.

The Chapin, while the most productive iron mine on the Menominee Range, was also the wettest. It steadily generated 2800 to 3000 gallons of water per minute in her lower shafts. A series of cave-ins beginning in 1886 spurred the search for a pumping device to adequately de-water the Chapin. In 1890 Chapin mine officials authorized purchase of a steam pump engine whose mechanism was similar to that used by tin mines in Cornwall, England.

The Cornish method of pumping employed the use of multiple cylinders to re-use steam at different pressures which forced excess water to the surface. Designed by Edwin P. Reynolds, chief mechanical engineer of the E. P. Allis Company of Milwaukee, the Cornish Pump began operating at the Chapin Mine on January 3, 1893.

The pump worked efficiently until 1896 when underground conditions caused the pump to shift, forcing its equipment out of alignment. The Oliver Mining Company purchased the Chapin in 1907, reassembled the Cornish Pump, and moved it west and uphill from its original site. It then continued to de-water the now-combined Chapin, Hamilton and Ludington mines for seven years. The installation of a new set of electrical pumps in 1914 idled the Cornish Pump, whose apparatus failed to adapt to the new pumps' drive speed.

In 1934, with the final shut down of the Chapin Mine, the Oliver Mining Company deeded the Cornish pump and its steel cage to Dickinson County. During World War II county officials dismantled the cage and donated it to the war effort as scrap metal. In the last two years Iron Mountain residents and preservationists have raised money to restore the Cornish Pump and house it in a historical park museum. The Cornish Pump today recalls the halcyon days of mining glory in Iron Mountain, and survives as a towering reminder of ore-rich activity on the Menominee Range.

9. Major Bibliographical References

Iron Mountain Daily News. Editorial, August 29, 1980.
 Lansing Journal. November 2, 1894.
 Sawyer, Alvah T. A History of the Northern Peninsula of Michigan. Vol. I. Chicago: Lewis Publishing Company, 1911. (continued)

10. Geographical Data

UTM NOT VERIFIED
 ACREAGE NOT VERIFIED
 Quadrangle scale 1:24000

Acreage of nominated property one acre
 Quadrangle name Iron Mountain

UMT References

A	<u>1</u> <u>6</u>	<u>4</u> <u>1</u> <u>6</u> <u>8</u> <u>8</u> <u>0</u>	<u>5</u> <u>0</u> <u>7</u> <u>4</u> <u>9</u> <u>4</u> <u>0</u>	B	<u> </u> <u> </u>	<u> </u> <u> </u> <u> </u> <u> </u>	<u> </u> <u> </u> <u> </u> <u> </u>
	Zone	Easting	Northing		Zone	Easting	Northing
C	<u> </u> <u> </u>	<u> </u> <u> </u> <u> </u> <u> </u>	<u> </u> <u> </u> <u> </u> <u> </u>	D	<u> </u> <u> </u>	<u> </u> <u> </u> <u> </u> <u> </u>	<u> </u> <u> </u> <u> </u> <u> </u>
E	<u> </u> <u> </u>	<u> </u> <u> </u> <u> </u> <u> </u>	<u> </u> <u> </u> <u> </u> <u> </u>	F	<u> </u> <u> </u>	<u> </u> <u> </u> <u> </u> <u> </u>	<u> </u> <u> </u> <u> </u> <u> </u>
G	<u> </u> <u> </u>	<u> </u> <u> </u> <u> </u> <u> </u>	<u> </u> <u> </u> <u> </u> <u> </u>	H	<u> </u> <u> </u>	<u> </u> <u> </u> <u> </u> <u> </u>	<u> </u> <u> </u> <u> </u> <u> </u>

Verbal boundary description and justification The structure is sited on a parcel of land measuring eighty by fifty feet and is located on SE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 25 in Township Forty North of Range 31 West in Iron Mountain, County of Dickinson, State of Michigan.

List all states and counties for properties overlapping state or county boundaries

state	code	county	code

11. Form Prepared By

name/title Charles C. Cotman, Historian
 organization Michigan History Division date April 20, 1981
 street & number 208 North Capitol Avenue telephone 1-(517)-373-0510
 city or town Lansing state Michigan 48918

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 Heritage Conservation and Recreation Service.

State Historic Preservation Officer signature Martha M. Bigelow date 6/2/81
 title Director, Michigan History Division

For HCRS use only
 I hereby certify that this property is included in the National Register Entered in the National Register. date 7/9/81
 Keeper of the National Register
 Attest: _____ date _____
 Chief of Registration

**United States Department of the Interior
Heritage Conservation and Recreation Service**

**National Register of Historic Places
Inventory—Nomination Form**

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received JUN 9 1981
date entered JUL -9 1981

Continuation sheet

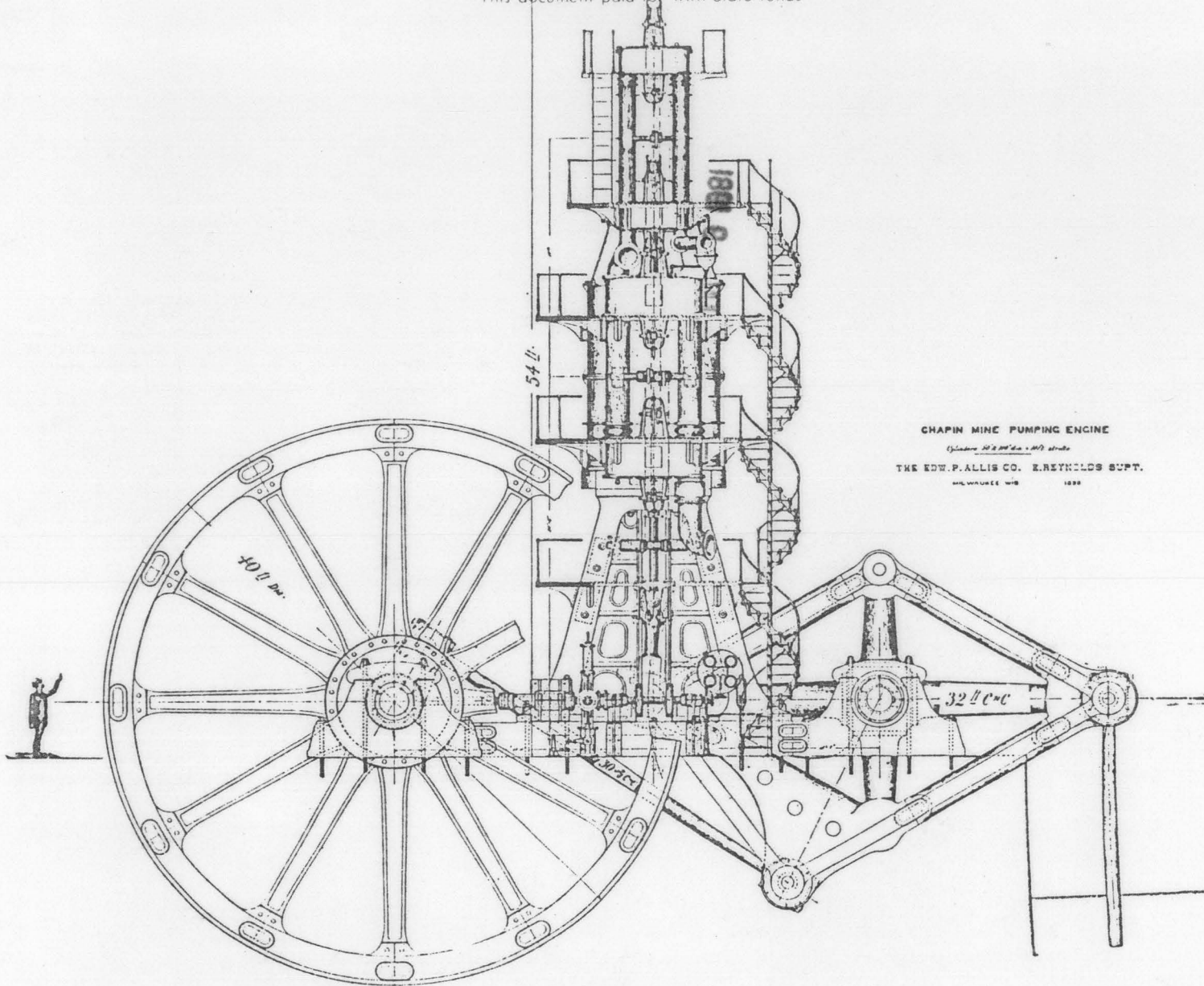
Item number 9

Page 2

State of Michigan, Department of Mineral Statistics, Annual Report for 1880. Lansing:
W. S. George and Company, 1881.

State of Michigan, Department of Mineral Statistics, Annual Report for 1907.

Paul C. Ziemke, "Old Pumping Engine Preserved for Posterity," Compressed Air Magazine,
November, 1947, 276-277.



CHAPIN MINE PUMPING ENGINE
 Cylinders 50 & 100" dia. - 10' stroke
 THE EDW. P. ALLIS CO. ENGINEERS SUPT.
 MILWAUKEE WIS 1898

PUMPING ENGINE.

THIS engraving illustrates a large pumping engine we constructed for the Chapin Mining Company, Iron Mountain, Mich. The machine is designed to pump water from the mines to the ground level, a lift of 1,500 feet. The figures on the drawing will give an idea of its enormous proportions. The steam cylinders are 50 and 100 inches diameter, both cylin-

ders by 10 feet stroke. The fly wheel is 47 in diameter and alone weighs over 150 tons. A series of pumps is attached directly to the pump rod from the beam end which overhangs the shaft, and the water raised in a series of lifts 200 feet each. Modifications of this type of machine can be designed to suit the requirements of any location.

JUL - 9 1891

JUN 9 1981



JUN 9 1981

DUE 7/8/81 - 7/24/81
dnr-3

Name Chapin Mine Steam Pump Engine
 State, County Mont. Dickinson Fed Nom/ or Request-Agency 81000305
 Working Number 6.9.81.195 Federal Register Date 2.2.82

Nomination
 Determination of Eligibility
 On Nomination Form

Bldg(s)
 Site
 Object
 Structure
 District

Within:
 Multiple Resource Area
 Thematic Group

Maps 1/1
 Photos 3

Nomination prepared by:
 State Staff
 Local
 Other

Entered in the
 Action: National Register
 ACCEPT 7/9/81
 RETURN _____
 REJECT _____

Check if Appropriate:
 State Request for Review
 Keeper's Decision to Review
 2nd Return

I. Evaluation of Resource (cont. on back if necessary)

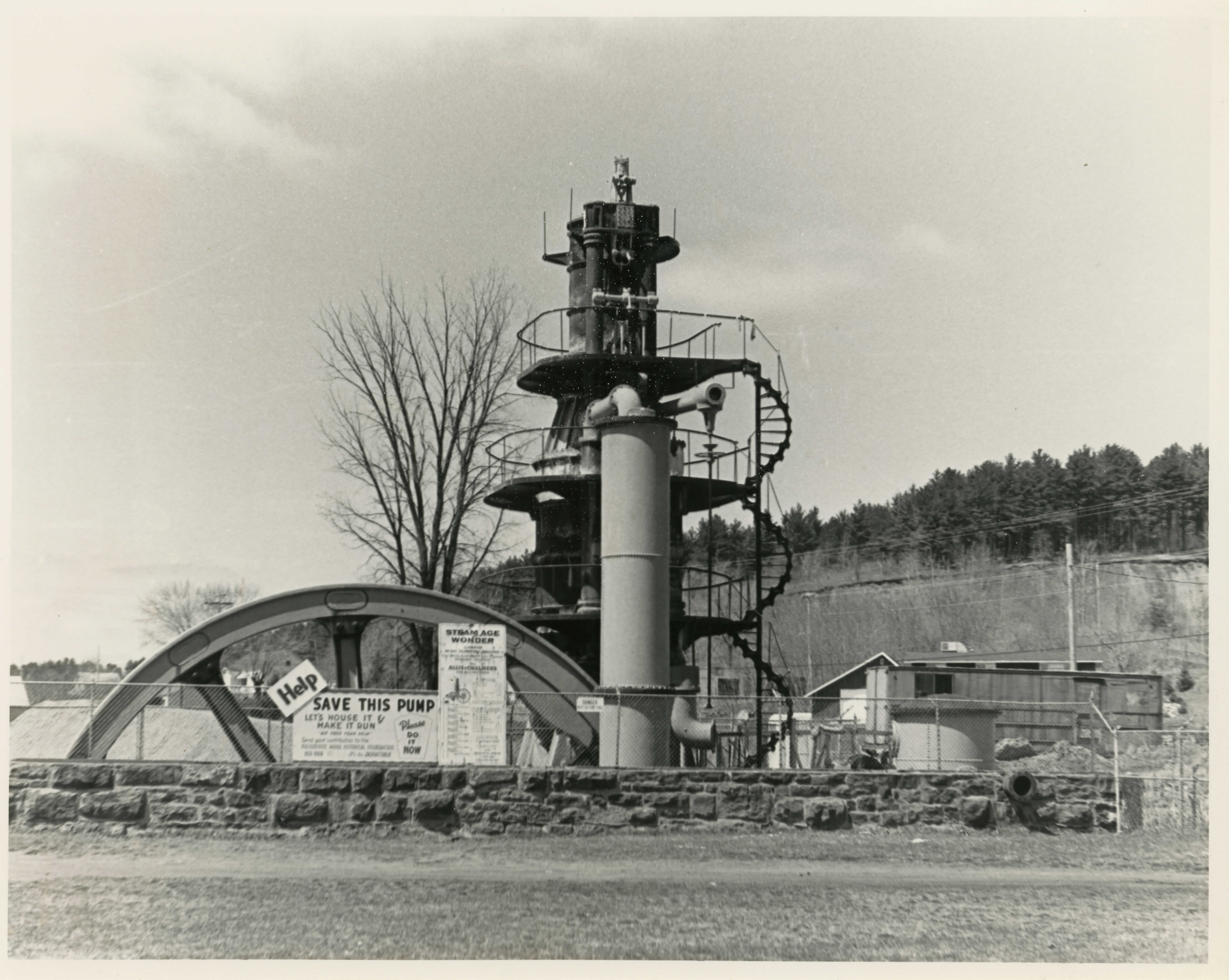
II. Evaluation of Nomination

	Good	Adequate	Poor	Comments
1. Descriptive Statement Short Format <input type="checkbox"/> Yes <input type="checkbox"/> No				
2. Significance Statement Short Format <input type="checkbox"/> Yes <input type="checkbox"/> No				
3. Concepts/Integrity				
4. Concepts/Criteria				
5. Concepts/Boundaries				
6. Contextual Evaluation				

General Comments (cont. on back if necessary):

Reviewer/Date _____

See Attached _____



Help

SAVE THIS PUMP
LET'S HOUSE IT & MAKE IT RUN
LET'S KEEP YOUR HELP
Send your contribution to the
INDUSTRIAL HISTORICAL SOCIETY
303 509 071 for DESCRIPTION

Please
DO
IT
NOW

STEAM AGE WONDER
An early industrial
engine installed
at the site of the
Allis-Chalmers
plant in
1880.

TABLE

INDUSTRIAL HISTORICAL SOCIETY

The Chapin Mine Steam Pump Engine
(The Cornish Pump)

Kent Street at Kimberly Avenue

Iron Mountain, Dickinson County, Michigan

Kathryn Fayas

April, 1981

Menominee Range Historical Museum, Iron Mountain, MI
49801

Camera facing NE

Photo # 1 of 3

JUN 9 1981

JUL -9 1981



The Chapin Mine Steam Pump Engine
(The Cornish Pump)

Kent Street at Kimberly Avenue

Iron Mountain, Dickinson County, Michigan

Kathryn Fayas

April, 1981

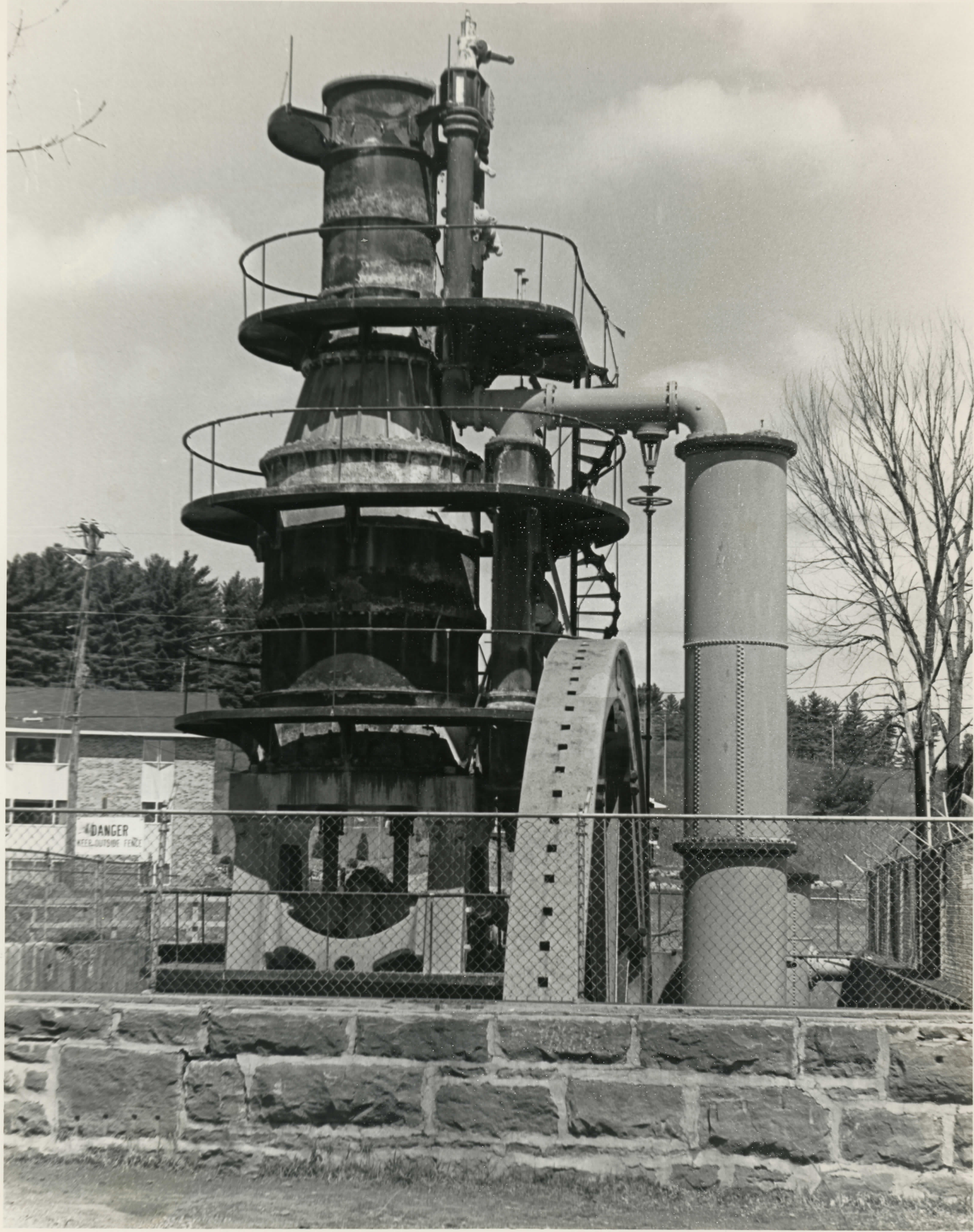
Menominee Range Historical Museum, Iron Mountain, MI
49801

Camera facing NW

Photo # 2 of 3

JUN 9 1981

JUL - 9 1981



The Chapin Mine Steam Pump Engine
(The Cornish Pump)

Kent Street at Kimberly Avenue

Iron Mountain, Dickinson County, Michigan

Kathryn Fayas

April, 1981

Menominee Range Historical Museum
Iron Mountain, MI 49801

Camera facing East

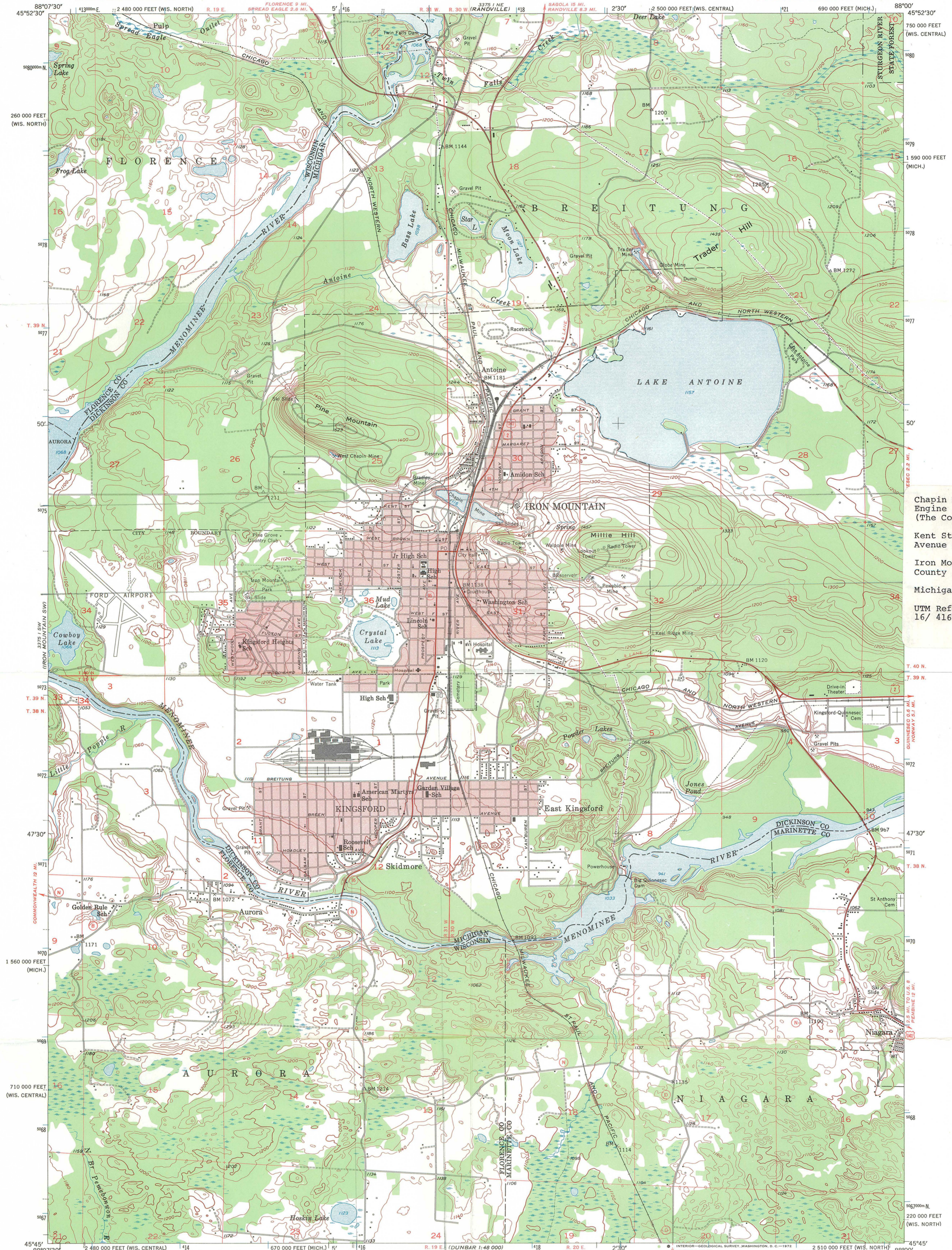
Photo # 3 of 3

JUN 9 1981

JUL - 9 1981

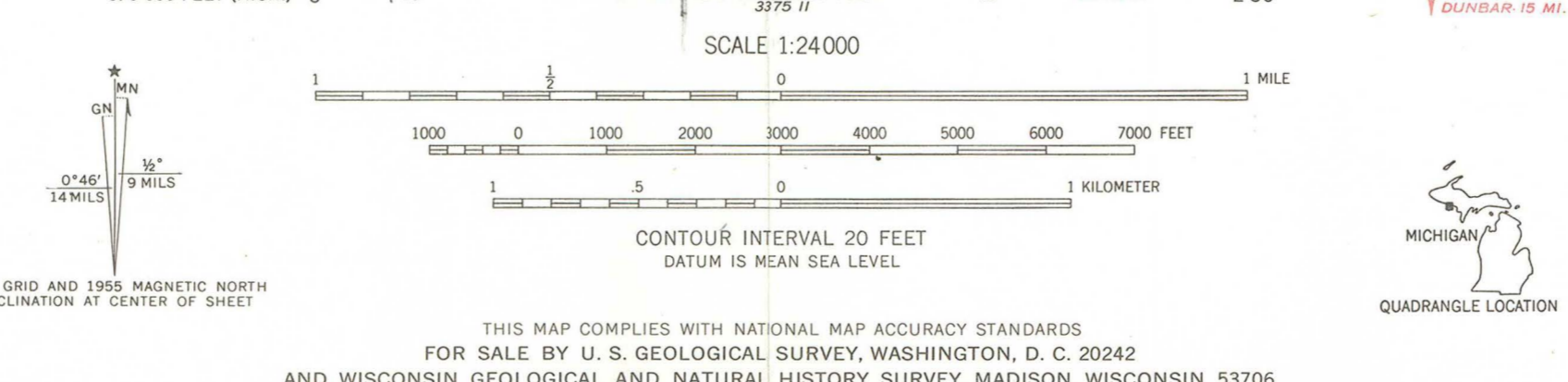
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

IRON MOUNTAIN QUADRANGLE
MICHIGAN-WISCONSIN
7.5 MINUTE SERIES (TOPOGRAPHIC)



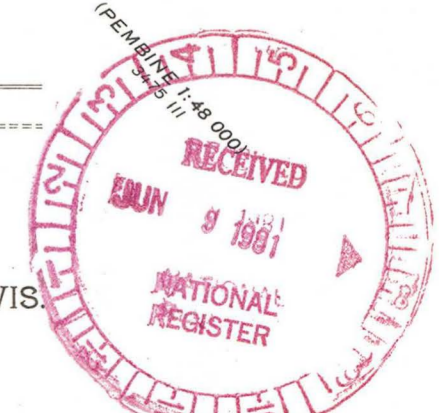
Chapin Mine Steam Pump Engine
(The Cornish Pump)
Kent Street at Kimberly Avenue
Iron Mountain, Dickinson County
Michigan
UTM Reference:
16/ 416880/ 507490

Maped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography from aerial photographs by multiplex methods
Aerial photographs taken 1951. Field check 1955
Polyconic projection. 1927 North American datum
10,000-foot grids based on Michigan coordinate system,
west zone, and Wisconsin coordinate system,
north and central zones
Red tint indicates areas in which only
landmark buildings are shown
1000-meter Universal Transverse Mercator grid ticks,
zone 16, shown in blue



ROAD CLASSIFICATION
Heavy-duty ——— Light-duty ———
Medium-duty ——— Unimproved dirt ———
U.S. Route State Route
MICHIGAN
QUADRANGLE LOCATION
IRON MOUNTAIN, MICH.-WIS
N4545-W8800/7.5
1955
AMS 3375 1 SE-SERIES Y862

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, WASHINGTON, D. C. 20242
AND WISCONSIN GEOLOGICAL AND NATURAL HISTORY SURVEY, MADISON, WISCONSIN 53706
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



JUL -9 1981

ENTRIES IN THE NATIONAL REGISTER

STATE MICHIGAN

Date Entered JUL - 9 1981

<u>Name</u>	<u>Location</u>
Chapin Mine Steam Pump Engine	Iron Mountain Dickinson County
Ishpeming Municipal Building	Ishpeming Marquette County
Highland United Methodist Church	Highland Oakland County

Also Notified

Honorable Carl Levin

Honorable Donald W. Riegle, Jr.
Honorable Robert W. Davis
Honorable William S. Broomfield
Midwest Region, NPS

State Historic Preservation Officer
Dr. Martha Bigelow
Director
Michigan History Division
Department of State
Lansing, Michigan 48918

NR

Eady/bjr/7/13/81

For further information, please call the National Register at (202) ~~343-6401~~

272-3504