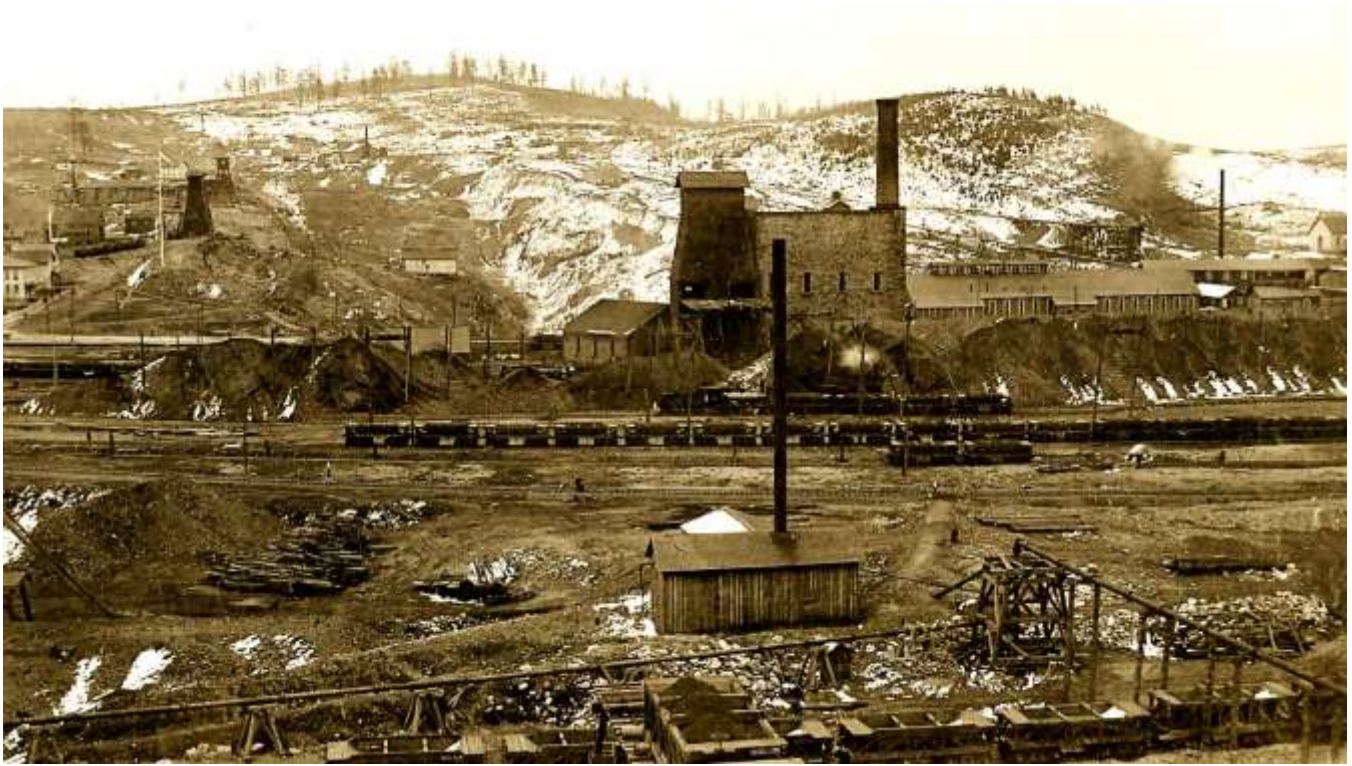


# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

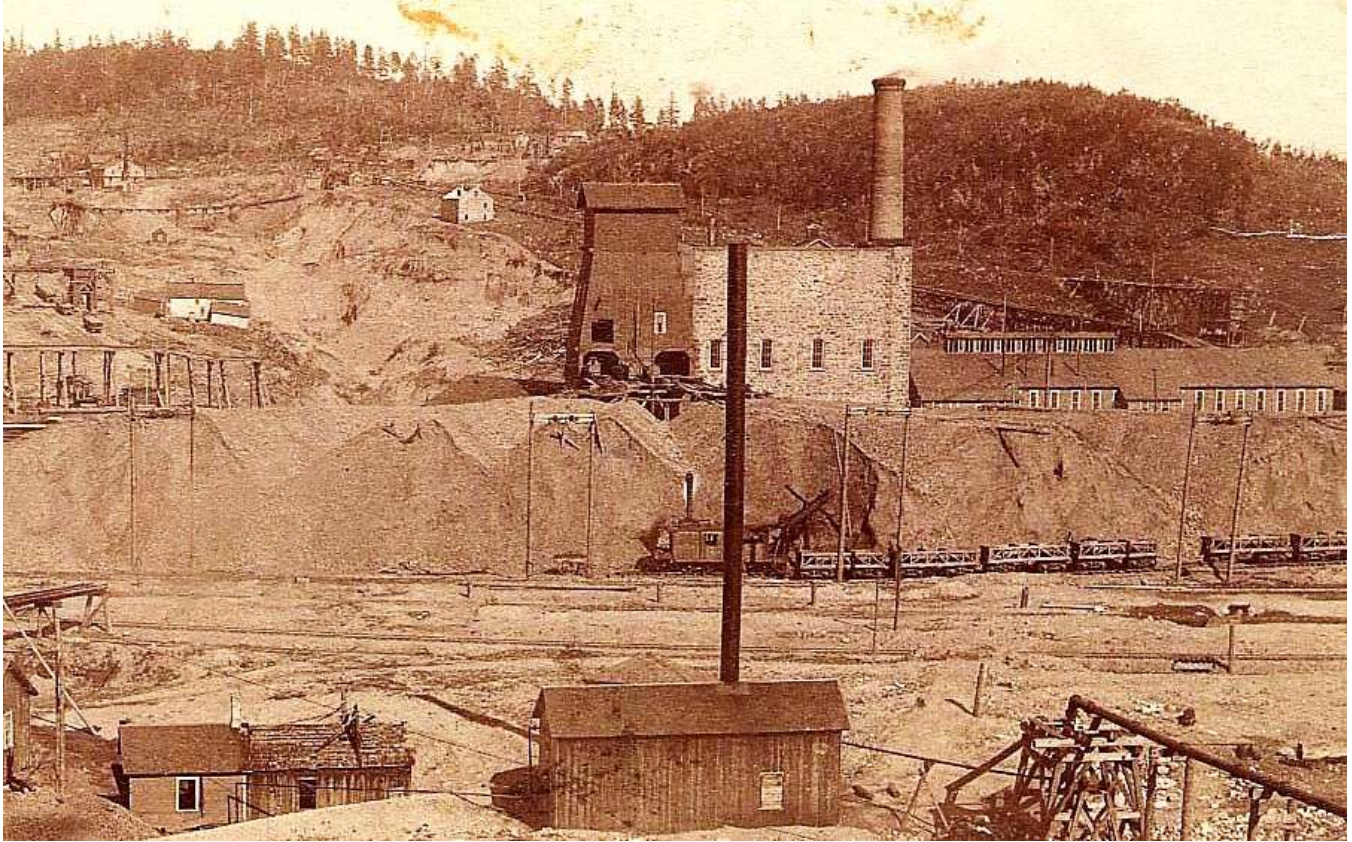
## *The Cornish Pumping Engine at D Shaft of the Chapin Mine*



This view of the Chapin Mine's D shaft complex, looking east, was probably taken between 1893 and 1896. Two tramways exit the shaft housing's mid-point. A steam locomotive appears to be pushing four cars directly below, in front of the vast stockpiles. To the right of the sandstone engine house and across the street, on North Stephenson Avenue, some of the Chapin Mining Company's shops are visible. The Millie Mine, originally the Hewitt, can faintly be seen directly above and slightly to the left of the shaft housing near the crest of Millie Hill, with Pewabic Hill rising in the background. The Hydraulic Power Company's air pipe appears in the lower right, extending west to the Ludington shaft and northwest to the Hamilton shaft. *[Menominee Range Historical Museum]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



Probably taken between 1893 and 1894, this view, facing east, shows the Chapin Mine's D shaft complex. Note the huge stockpiles of iron ore with the steam shovel ready to load railroad cars, the wooden shaft house and the original sandstone building housing the Cornish pumping engine. Some of the Chapin Mining Company's shops are visible on the east side of South Stephenson Avenue south of the sandstone pump house which was located on the west side of South Stephenson Avenue. *[Keen S. Scott]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

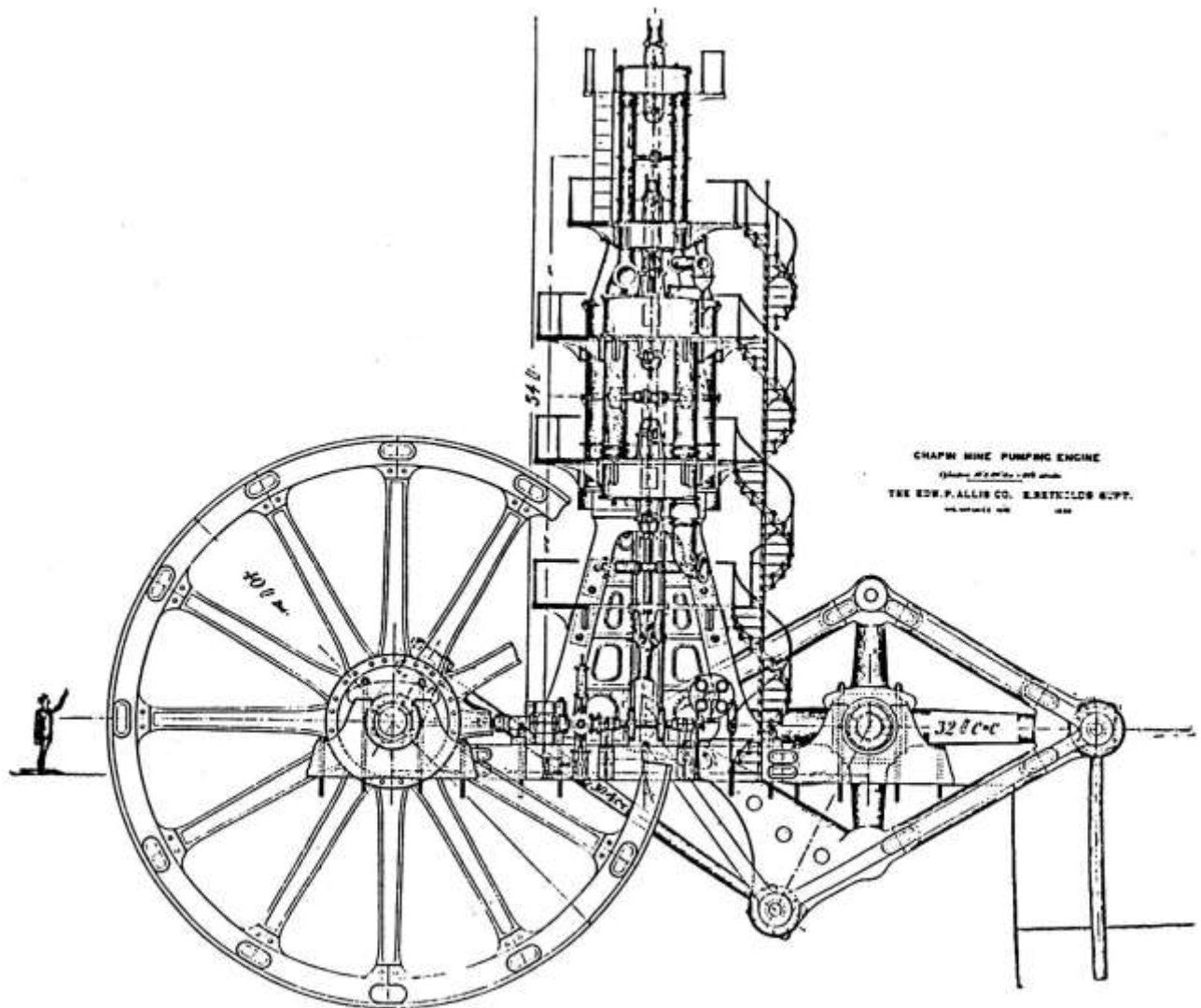
*[Compiled and Captioned by William John Cummings]*



Excavation for the foundation of the original building housing the Cornish pumping engine, located on North Stephenson Avenue on the south side of today's West Chapin Lake or West Chapin Pit, began in the fall of 1889. Measuring 36x42 feet and constructed of native red sandstone, the building, towering four stories high, dominated the landscape a year later. The smokestack was contained at the engine house's south end, while the shaft housing, approximately 100 feet in height, was located to the north. The hoisting plant, powering the half-inch thick by four-inch wide flat cables, was situated in a sandstone building just northeast of the shaft house (at the right in the photograph) and began operation in November, 1891. The sandstone boiler house was an eastern extension of the engine house, and contained the battery of Reynolds' patented boilers. *[Menominee Range Historical Museum]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

[Compiled and Captioned by William John Cummings]



*The Iron Range*, an early Iron Mountain newspaper, ran a front-page feature article on the Cornish pumping engine in the May 19, 1892, edition which contained the above line diagram and read as follows: *We present to our readers this week an illustration of the mammoth pumping engine now being erected at D shaft, Chapin mine, under the supervision of Mr. Chas. Taylor, erecting engineer, and through the courtesy of the builders, The E.P. Allis Company, of Milwaukee, we are able to give the following description of this wonderful machine: This engine is what is known as a steeple compound condensing engine, and was designed by E. and I.H. Reynolds, and the contract calls for ninety million foot pounds duty. It will be capable of lifting 200 tons of water per minute, 1500 feet, 100 feet flow, which will be equivalent to 4,000,000 gallons on 24 hours. So it will be seen that the Chapin Mining Company, in putting in this machine, is providing for any contingency that is likely to arise as the mine is deepened to 1500 feet from the surface. The length from the end of the bob to the back of the fly wheel is about 75 feet and the height above foundation is 54 feet. The high pressure cylinder is 50 inches in diameter and the low pressure cylinder is 100 inches in diameter, and the pumps, to be located about 200 feet apart in the shaft, are 28 inches in*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

*diameter, with 120 inches stroke. The bob weighs about 120 tons, and the fly wheel about 160 tons. The fly wheel, as indicated in the illustration, is 40 feet in diameter. The rim of the wheel is 24 inches thick and 24 inches wide. The immensity of this machine is illustrated in the engraving in a most striking manner by the representation of a six foot man standing near the fly wheel. The shaft on which the fly wheel revolves is 27 inches in diameter. The bob is made in seven pieces and firmly held together by 21 wrought iron links shrunk on to the lugs as shown by dotted lines in the engraving. It is further strengthened by eight wrought iron tension rods, 8 x 16 inches, shrunk on to the sides and held in place by pins. The engine is fitted with a surface condenser with 1049 one inch tubes, and a Reynolds patent air pump. The mine water will be used in the condenser for cooling purposes. The boilers being once charged with water, as it is evaporated and the steam performs its office of driving the pumping engine, it exhausts into the condenser and is there cooled to a liquid state and pumped back into the boilers by a pump attached to the air pump, thereby affecting the greatest economy possible in the use of water and the making of steam. But to supply any deficiency arising from possible leakage or waste of any kind a small pipe is connected with the city water works. The boiler plant at present consists of four Reynolds patent boilers, but as the mine increases in depth four more will be added as needed. This engine is the largest and most powerful of its kind ever constructed, and the long established reputation of the builders is sufficient guarantee that it will perform the duty for which it is designed in a perfectly satisfactory manner. The E.P. Allis Company has contracts for and is building nine triple expansion engines of 165,000,000 gallons daily capacity, and among those of this type already built is one with steam cylinders of 40, 70 and 104 inches by 60 inches for the American Water Works Company, of Omaha, Neb. [Dickinson County Library]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

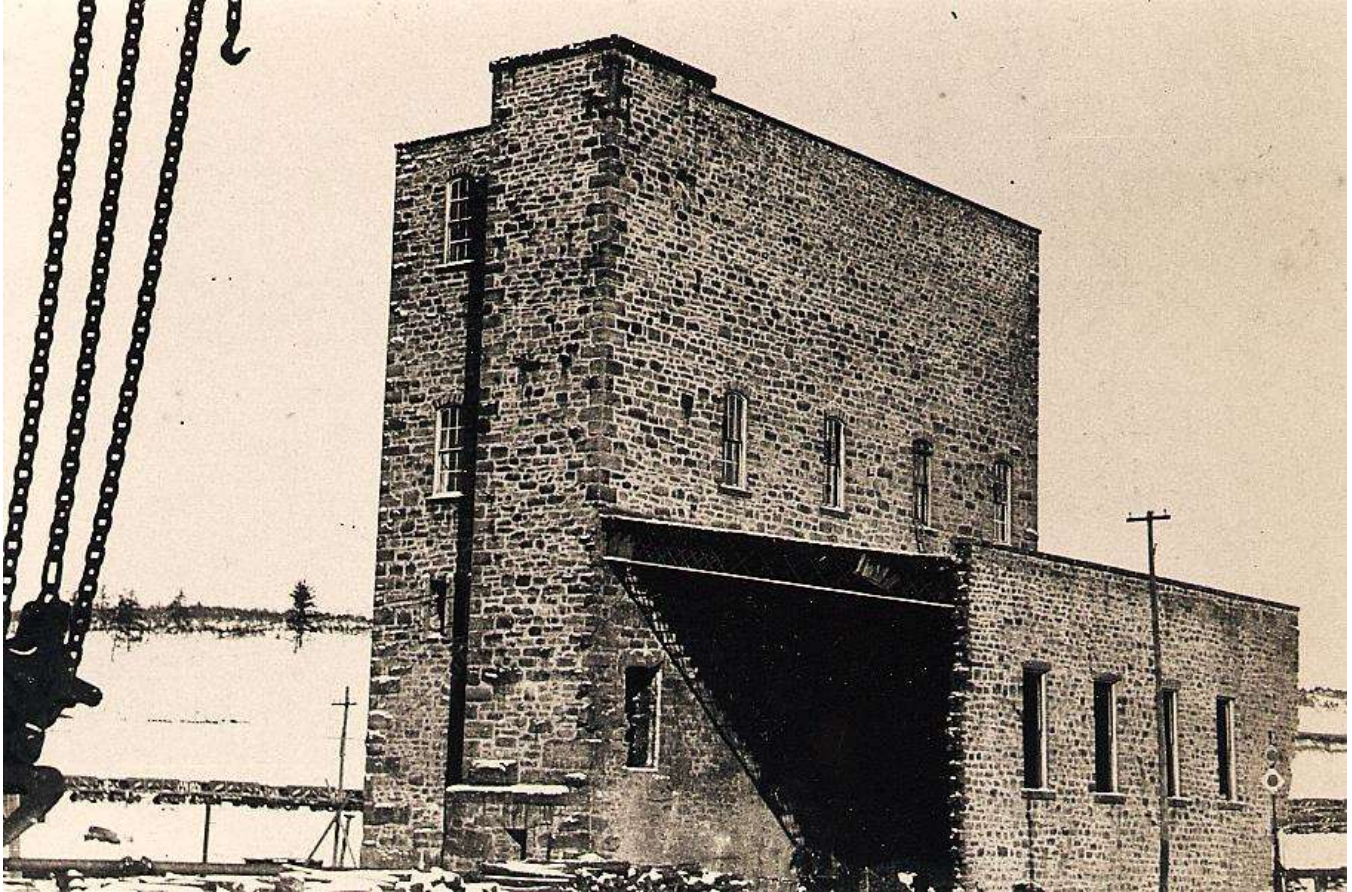


The original sandstone building housing the Cornish pumping engine, slightly right of center, dominated Iron Mountain's landscape in the 1890's, when this photograph was taken. The Chicago & Northwestern depot was located on the west side of the 300 block of South Stephenson Avenue. In the foreground, a flagman's house is on the left, and a similar building, toward the center of the photograph, served as a shelter for the policemen. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



In June, 1899, a crew of Chapin Mining Company men was assigned to tear down the stone engine house and the large brick smokestack, salvaging as much of the smokestack as possible. However, the four-story sandstone pumping engine house was not razed. The management decided to allow it to tumble down with the settling ground. *[Keen S. Scott]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

## ***C Ludington Shaft of the Chapin Mine and the Cornish Pumping Engine***



Dated October 19, 1912, this view of the C Ludington Shaft, facing east, shows the shaft housing which rose 114 feet above the collar of Iron Mountain's Chapin Mine. The chutes to the left allowed ore cars, like those pictured, to be loaded directly, as the ore came up in the tram cars on the hoist. The cage in which the men descended and ascended can be seen at the lower left of the shaft housing. The pump house, covering the Cornish pumping engine where it still stands today, was sheathed in corrugated metal and rested on a red sandstone foundation. A pipe can be seen leading from the boiler house to the pump house, feeding steam to the gigantic engine. Another railroad track passed between these two buildings. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



Postmarked in Iron Mountain, March 3, 1908, this black-and-white halftone postcard, looking west, shows the New Steel Shaft House and Pump House at the Chapin Mine. The building housing the Cornish pumping engine is at the right with the shaft, apparently still under construction, at the far right. The boilers were located in the boiler house building at the left with the tall smokestack. The postcard view was sold by the Seibert Drug Co. Note the early automobile in the lower center of the photo. *[William J. Cummings]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



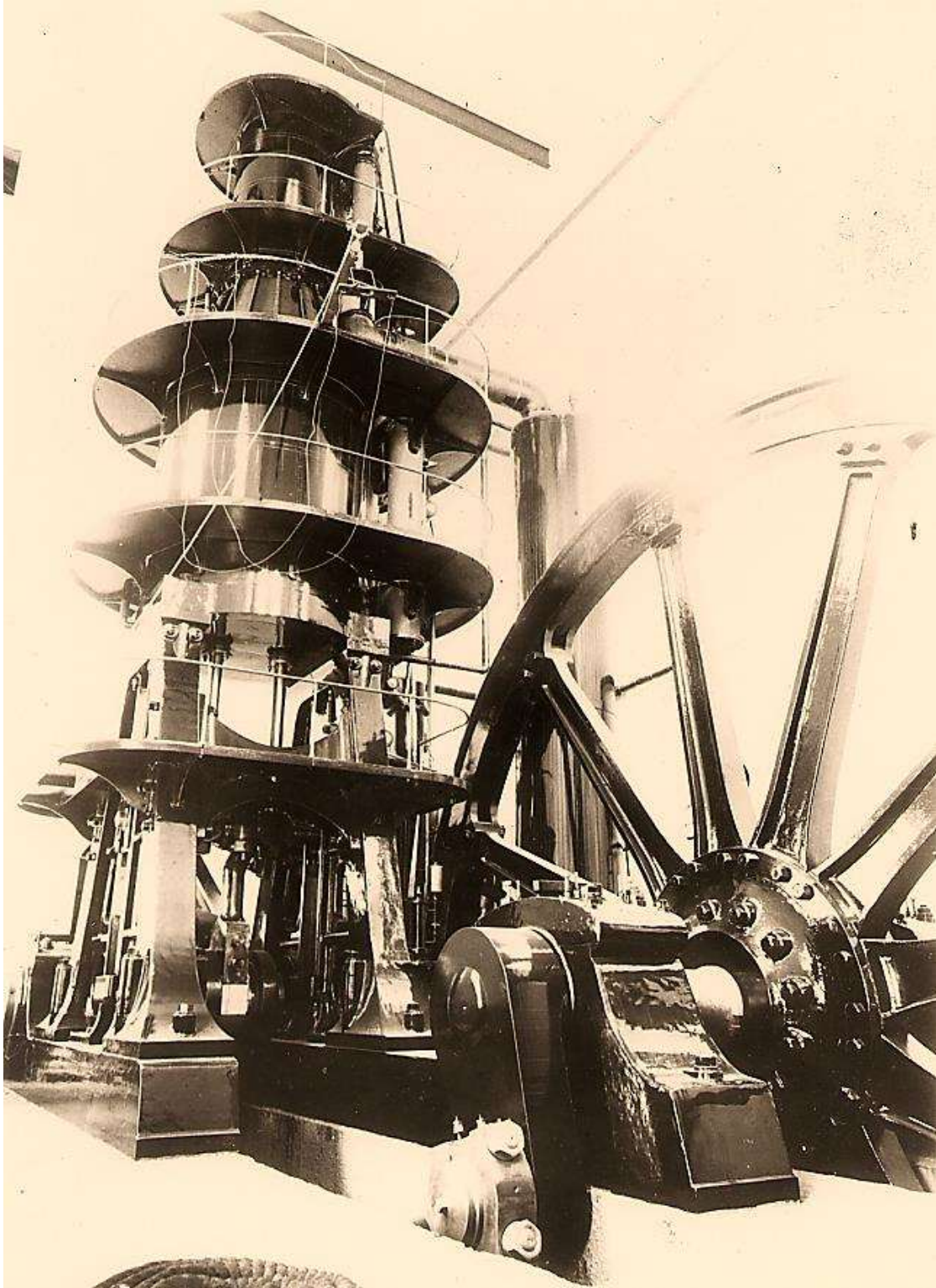
This postcard view, with the camera looking southeast, dates from about 1908, when the new steel C Ludington Shaft of the Chapin Mine was completed. Published by the E.C. Kropf Company of Milwaukee, the postcard shows the shaft housing which rose 114 feet above the collar and the building containing the Cornish pumping engine south of the headframe.

*[William J. Cummings]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

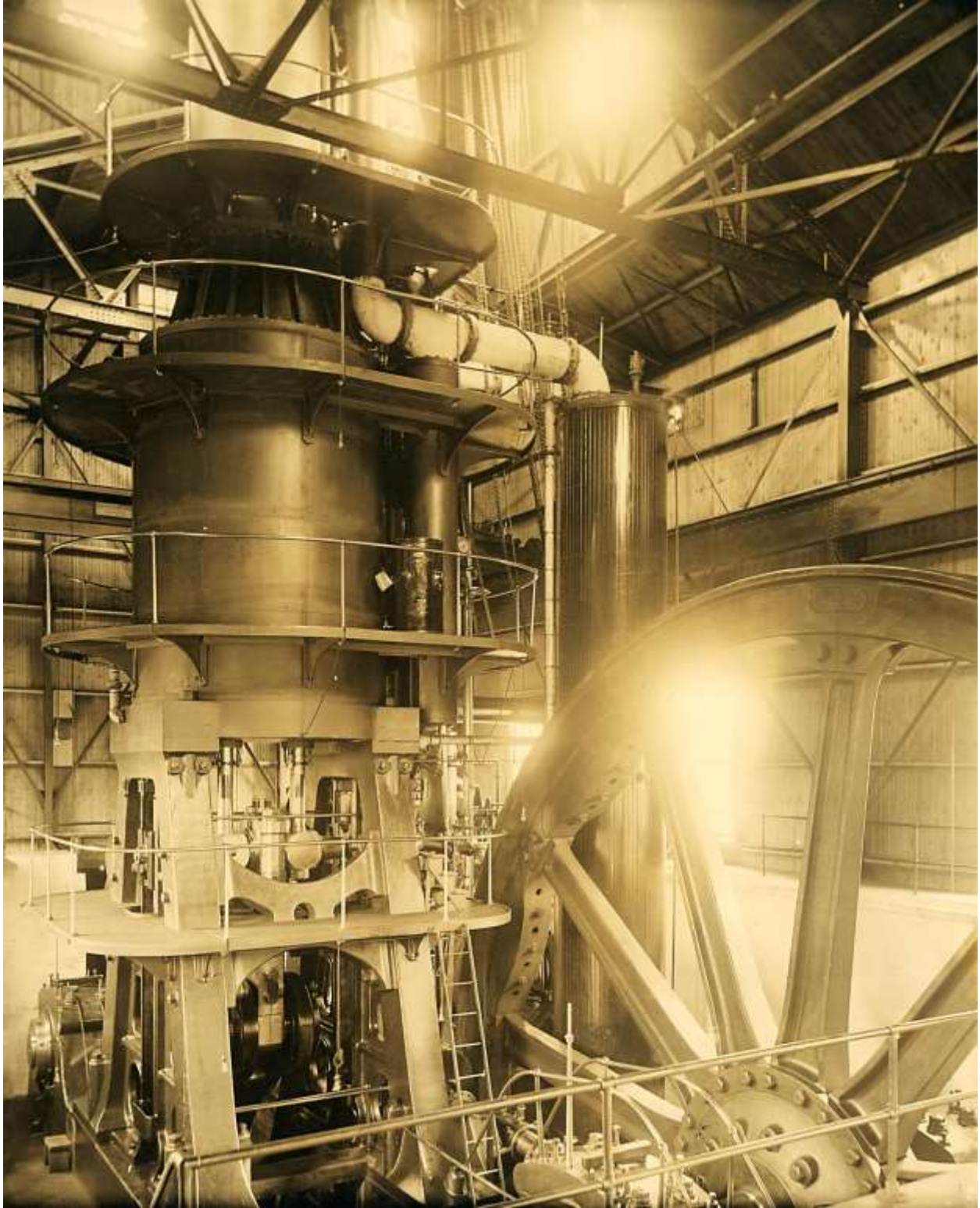


Probably dating to October, 1912, this interior view of the pump house shows the Cornish pumping engine at C Ludington Shaft of the Chapin Mine, where it remains. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

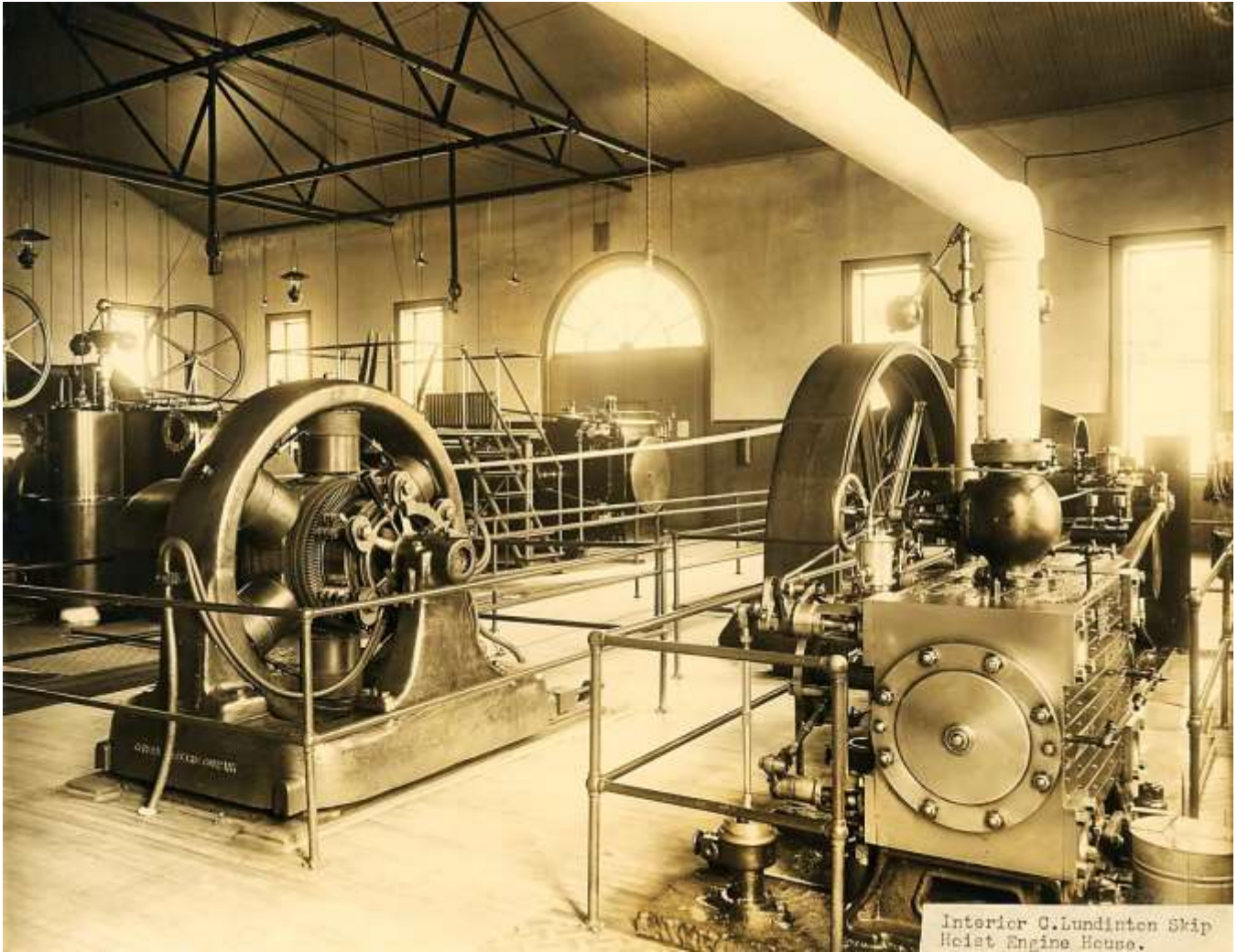
*[Compiled and Captioned by William John Cummings]*



Dated October 19, 1912 and property of the Oliver Iron Mining Company, this photograph shows the interior of the pump house with the Cornish pumping engine at C Ludington Shaft of the Chapin Mine, where the engine remains. *[Menominee Range Historical Museum]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



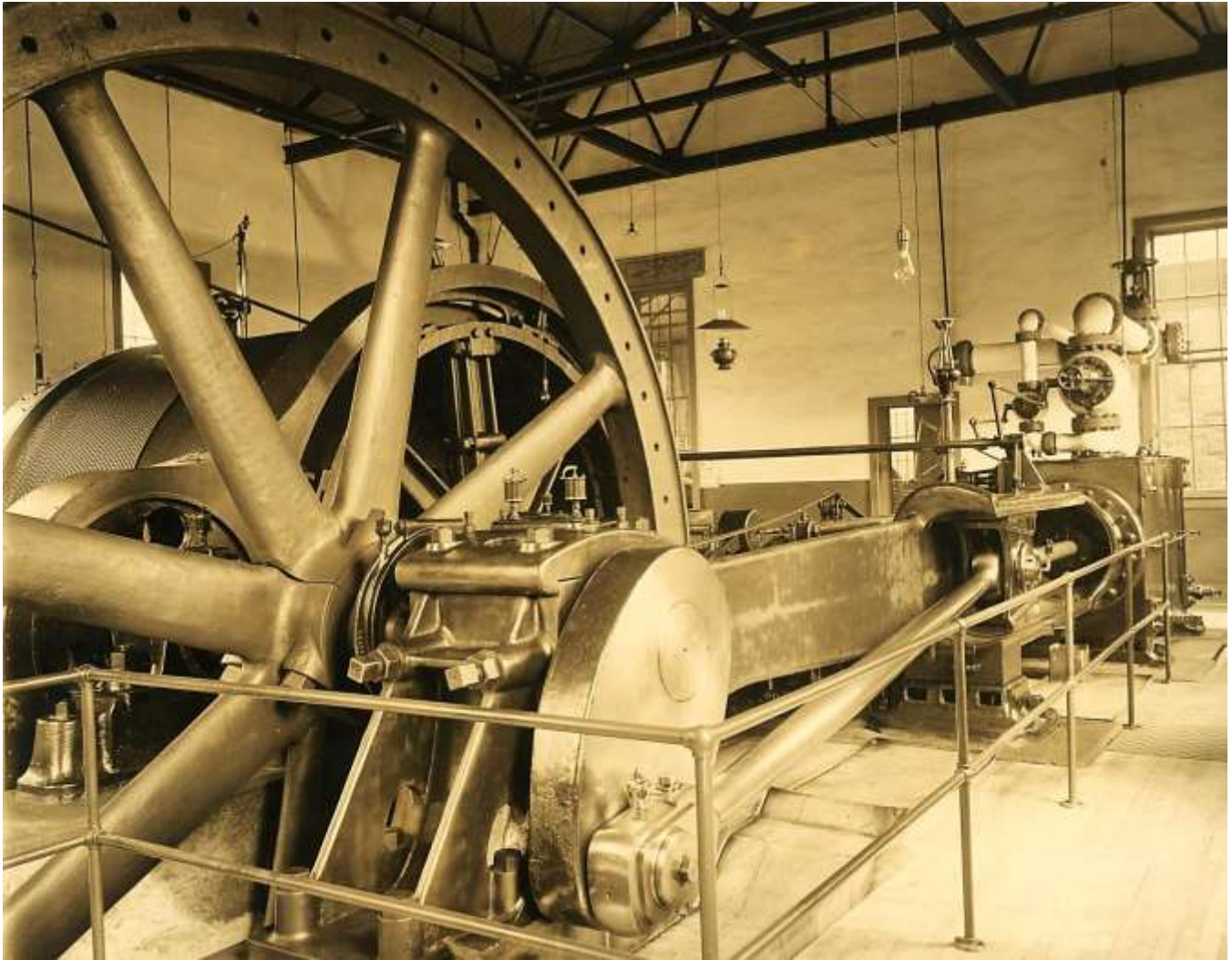
Interior C.Ludington Ship Hoist Engine House.

This interior view of the Chapin Mine's "C" Ludington Shaft hoist engine house, probably dating from October 19, 1912, shows several engines. Note the immaculate condition of the engine house and the fan window above a set of double doors. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



Dated October 19, 1912, this photograph shows the hoisting engine and drum which began operation July 26, 1908. The hoisting drum, keyed to the shaft's depth of 1,522 feet, contained grooves for the 1 3/8-inch steel rope and was 12 feet in diameter. Powered by an engine built by the Allis-Chalmers Company capable of hoisting 22,000 pounds, excluding the weight of the steel rope, the drum raised and lowered two 4,000-pound skips. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



These miners, many carrying their tin lunch pails, posed for the photographer at the Chapin Mine's "C" Ludington Shaft in about 1908. They were wearing carbide lamps on their hats to light their work area in the mine. Posing at the Chapin Mine's "C" Ludington Shaft in about 1908, these miners are identified as follows: front row, left to right: Charles "Tito" Gianunzio, Peter Salina, Vincent Oradai, William Oliver (foreman), unknown, Joe Badini, Martin Carollo, Emanuel Rossi and unknown; second row, left to right: Vincent Spigarelli, Tony DeMuri, \_\_\_ Pucci, William Beard, unknown, Pitchy Nelson, \_\_\_ Larson, Louis Palluconi, Nicola Eutizi, \_\_\_ Anderson and Ferdinand Badini; third row, left to right: Raphael Corsi, Isadore Fontecchio, Louis Garavaglia, Anton Petroni, Peter Fiorani, \_\_\_ Milano, Art Hooper, unknown, Carlo Moroni and John Sleik; back row, left to right: Charles Regettes, John Strelig, Jack Eckholm, Louis Palesoti, unknown, Najerino Mancini, unknown, unknown, \_\_\_ Olson and August Nardi. *[Menominee Range Historical Museum]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



Another group of miners, many carrying their tin lunch pails, posed for the photographer at the Chapin Mine's "C" Ludington Shaft in about 1908. They were wearing carbide lamps on their hats to light their work area in the mine. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

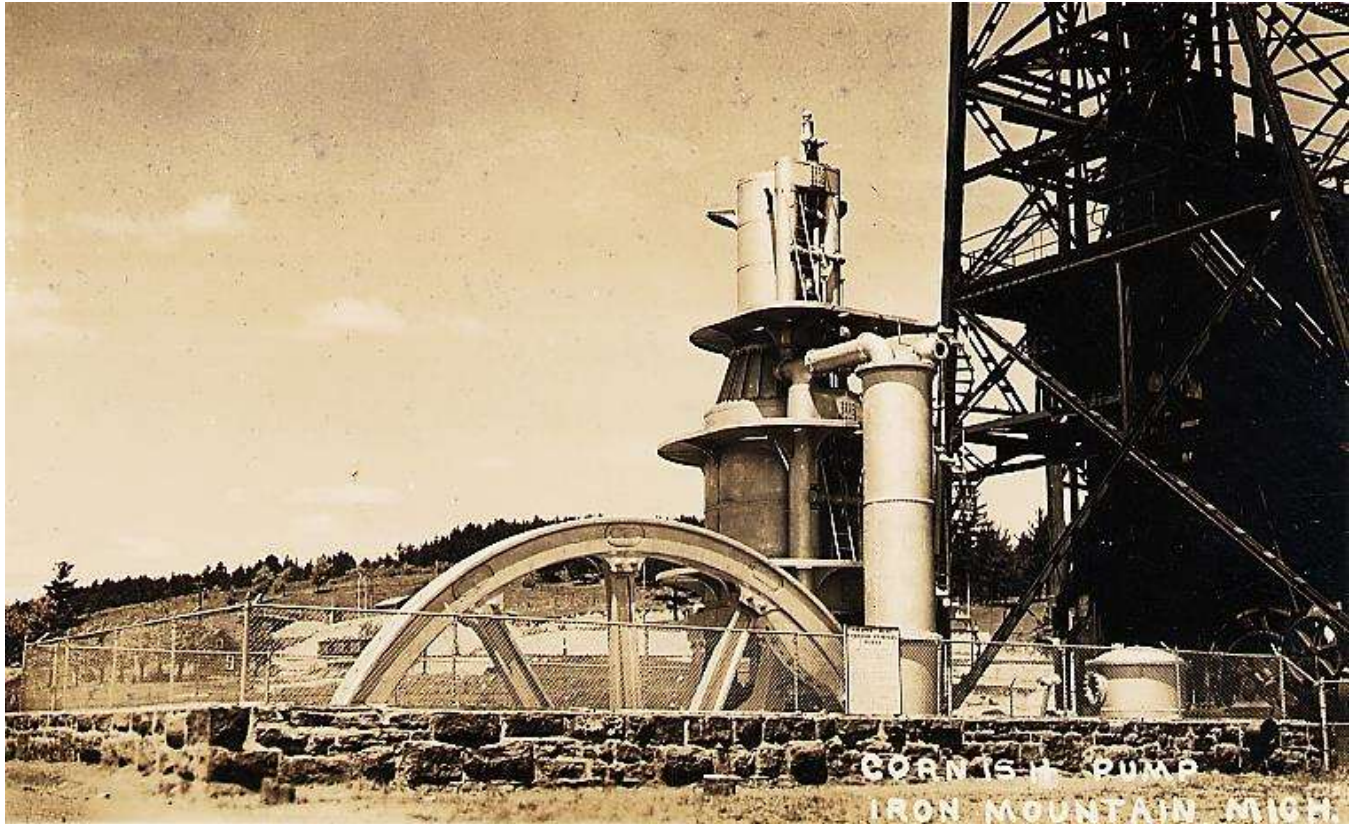


A large group of miners wearing carbide lamps posed at C Ludington Shaft of the Chapin Mine, some carrying their lunch pails, probably in about 1915-1920. The steel shaft housing and the metal pump house building housing the Cornish pumping engine can be seen in the center of the photograph. The building south of the pump house was the boiler house, where steam was produced to operation the Cornish pumping engine. The camera is facing southeast. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



This postcard view, dated September 5, 1937 on the reverse, was probably one of the earliest postcards issued to promote the Cornish Pump. The building housing the Cornish Pumping Engine was removed by workers from the Dickinson County Highway Department in September, 1935, just a year after the county acquired the landmark. At the same time chain-link fencing was placed around the original sandstone foundation. *[William J. Cummings]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



This postcard view of the Cornish pumping engine with the steel shaft housing still standing dates to about 1940. Exactly when the steel head frame and ore chutes were removed has not yet been determined.

In late July, 1942, the Dickinson County Board of Supervisors tabled a request from Edward Chandler, commander of the Dickinson County Council of American Legion Posts that asked that the relic be dismantled as scrap metal for the war effort.



## **PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES**

*[Compiled and Captioned by William John Cummings]*

Don Smith, secretary of the Dickinson County Chamber of Commerce and chairman of the Iron Mountain Salvage-for-Victory Drive, urged the Cornish Pumping Engine be retained as a tourist attraction, viewed by many visitors to the area.

A week later saving the county-owned pump became a civic issue with the county board of supervisors and chamber of commerce wishing to preserve the historic landmark and the Kingsford Board of Commissioners supporting the American Legion drive to convert the huge machine to scrap for the war effort.

Kingsford Defense Coordinator George Sanford had urged the Kingsford Board of Commissioners to dismantle the pump for salvage. *[William J. Cummings]*

**PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES**  
*[Compiled and Captioned by William John Cummings]*





# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

This photograph of the Cornish pumping engine was taken by William Erickson, who owned Erickson's Studio on Hooper Street in Kingsford with his wife Mary (Weinert) Erickson. Although a black-and-white photograph, the black outline on the spokes of the 40-foot flywheel indicate a date after the pump was painted orange and yellow-gold with black highlights, probably sometime in the 1960's.

In his column appearing in *The Daily News* on April 23, 1983, E.H. "Hap" Rondeau, a veteran staff reporter, recalled his youth as one of the boys growing up at 25 Location where the Cornish pumping engine was one of the "playgrounds" frequented by his group. He remembered the "winding steel stairs, many nooks and crannies for hiding from imaginary enemies, and above all, the 'big challenge'." Hap noted that "you either failed or succeeded in the 'big challenge' the day you decided, of course goaded on by your buddies, to walk over the top of the wheel." Imagine walking the 40-foot flywheel to prove yourself to your pals! *[Menominee Range Historical Museum]*



This unused postcard view, probably dating between 1950 and 1960, showed the Cornish Pumping Engine painted with aluminum paint. Chain-link fencing still surrounds the with the red sandstone foundation, but the steel head frame had disappeared, taken during a scrap metal drive during World War II. *[William J. Cummings]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



Painted orange and yellow-gold with black trim, this unused postcard view of the “Cornish Mine Cornish Pumping Plant” probably dates between 1960 and 1970. *[William J. Cummings]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



The Menominee Range Historical Foundation purchased the Cornish pumping engine from Dickinson County for one dollar on September 12, 1978, with the understanding that the Foundation would assume all responsibility for developing a permanent historic mining site. In the fall and winter of 1982-1983, a metal building 80 feet by 70 feet and 50 feet in height was erected by Smith Metal Structures, Inc., general contractor, at a cost of \$101,000 to preserve the famous pumping engine for future generations. *[Menominee Range Historical Museum]*

## CLIFFORD MINE

S  $\frac{1}{2}$  of SW  $\frac{1}{4}$  of Section 17,  
Township 40 North, Range 30 West

Iron Mountain

Opened: 1895

*[See Antoine Mine/Traders Mine.]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

## CORNELL MINE

NE  $\frac{1}{4}$  of Section 20,  
Township 40 North, Range 30 West

Iron Mountain

Discovered: Fall of 1879 by John R. Wood

Opened: 1880

## EAST CHAPIN MINE

Iron Mountain



This unused real photo postcard is identified on the reverse in ink as the East Chapin Mine, 1916. The two miners, wearing carbide lamps on their mining hats, are holding Rand drills which used compressed air for power. *[William J. Cummings]*

## GROVELAND MINE

N  $\frac{1}{2}$  of SE  $\frac{1}{4}$  of Section 31,



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

Township 42 North, Range 29 West

Randville

Opened: 1901



This postcard view, taken in 1909, shows the Groveland Mine in the background and a part of the Groveland settlement in the center and at the left. *[Stewart Belheumer/Beatrice Blomquist]*

## HAMILTON MINE

NW  $\frac{1}{4}$  of SW  $\frac{1}{4}$  of Section 30,  
Township 40 North, Range 30 West

Iron Mountain

Opened: 1886

*[part of Chapin Mine after 1894]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



With the buildings surrounding the Chapin Mine at the foot of Iron Mountain's Millie Hill (in the background at left) serving as a reference point, this photograph, documenting early mining construction techniques, has been identified as the Hamilton Mine, and was probably taken in late fall, 1883, when the shaft house and tramway were being erected. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

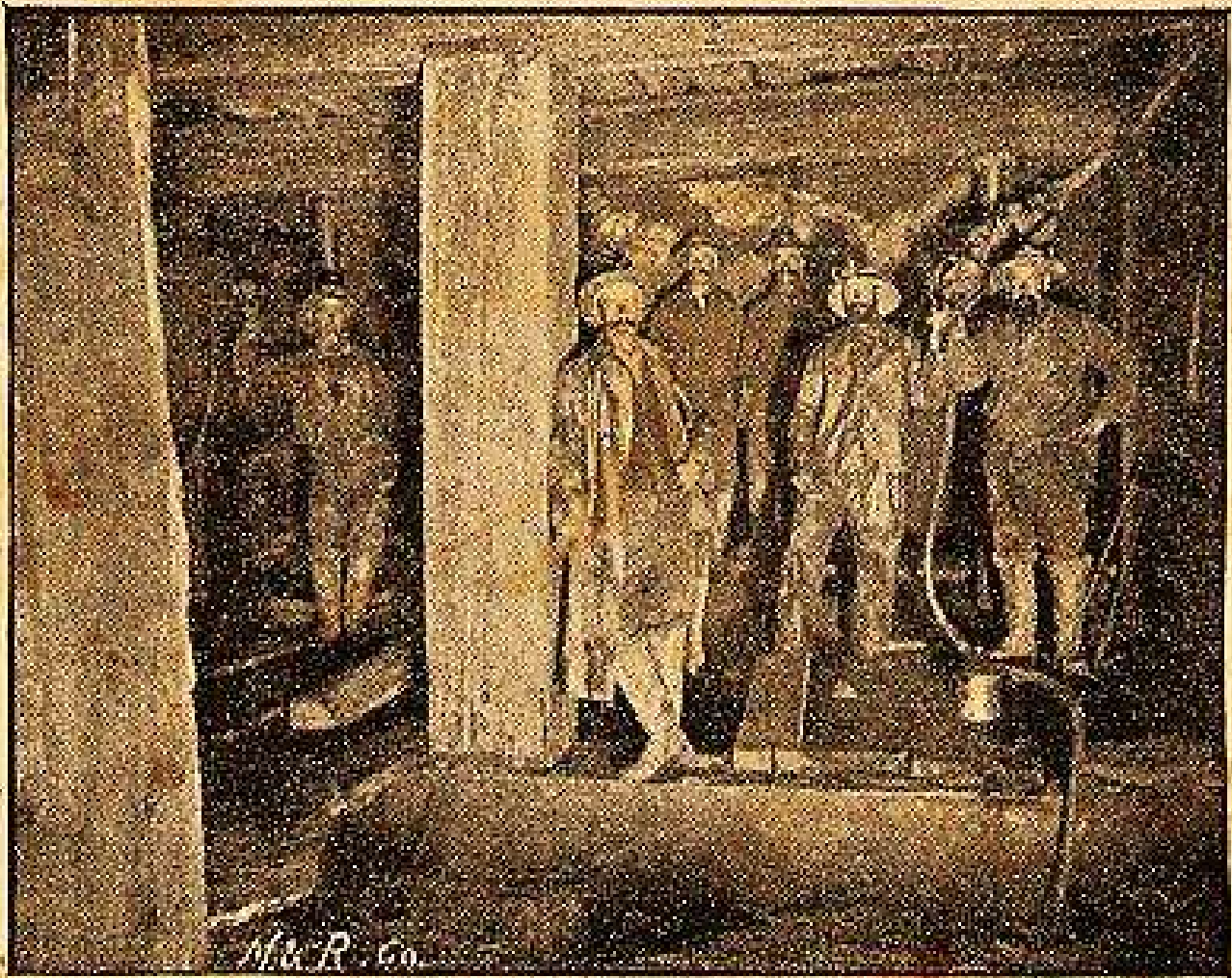
*[Compiled and Captioned by William John Cummings]*



The Hamilton Mine was owned by the Hamilton Ore Company, of Sharon, Pennsylvania, and was located on the N $\frac{1}{2}$  of the SW $\frac{1}{4}$  of Section 30, Township 40, Range 30, a tract which contained 80 acres leased from the Hamilton & Merryman Company. John Tyler Jones prospected in the area in 1883 and discovered the mine that year by using a diamond drill. This early photograph, probably dating between 1886 and 1890, shows the shaft housing at the right and the trestles and tramways where the ore cars dumped the iron ore onto the stockpiles on the left. *[Menominee Range Historical Museum]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



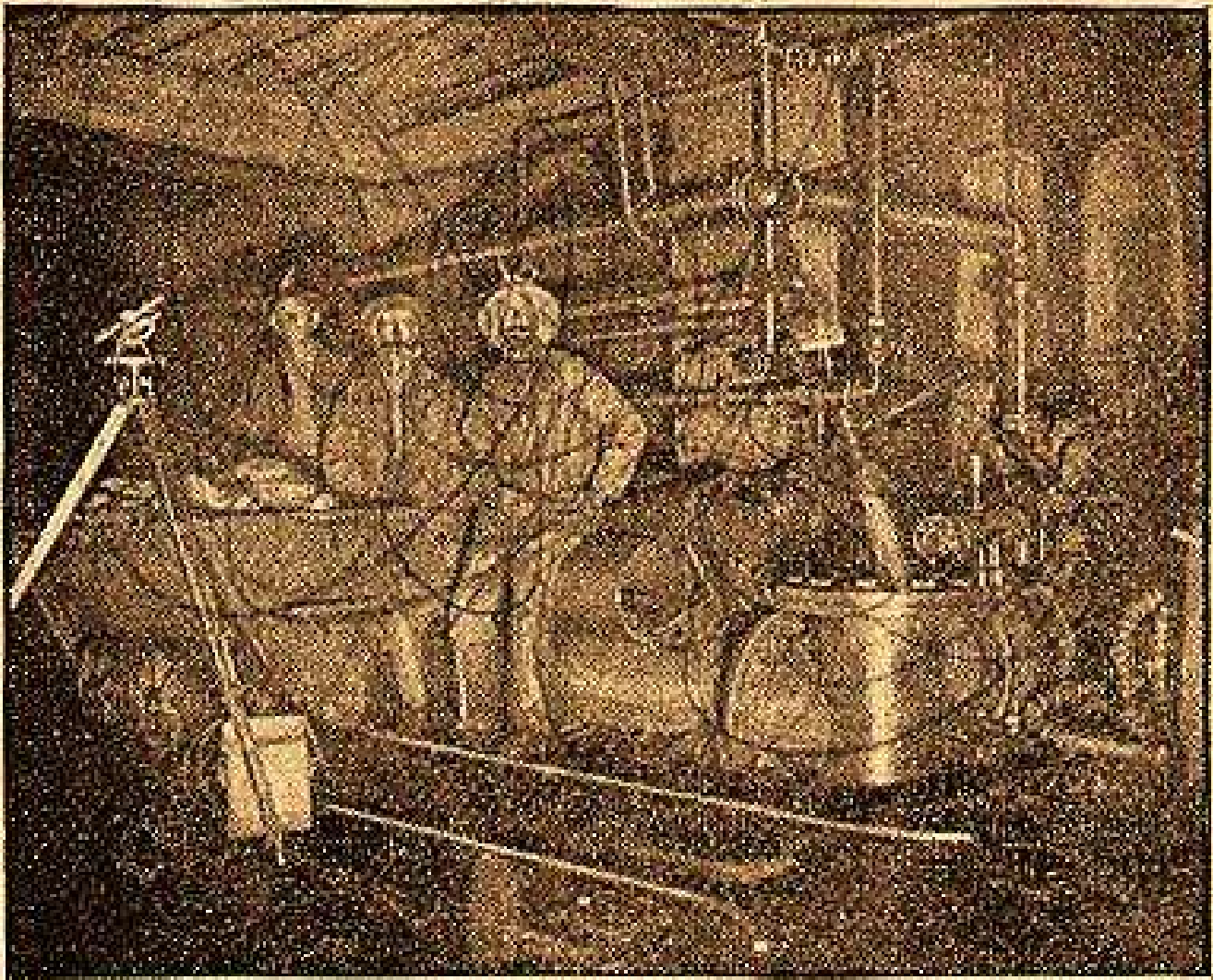
ROCK DRILLING, TWELFTH LEVEL,  
HAMILTON MINE.

This illustration appeared in Walter R. Nursey's book *The Menominee Iron Range*, published in 1891. *[William J. Cummings]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

[Compiled and Captioned by William John Cummings]

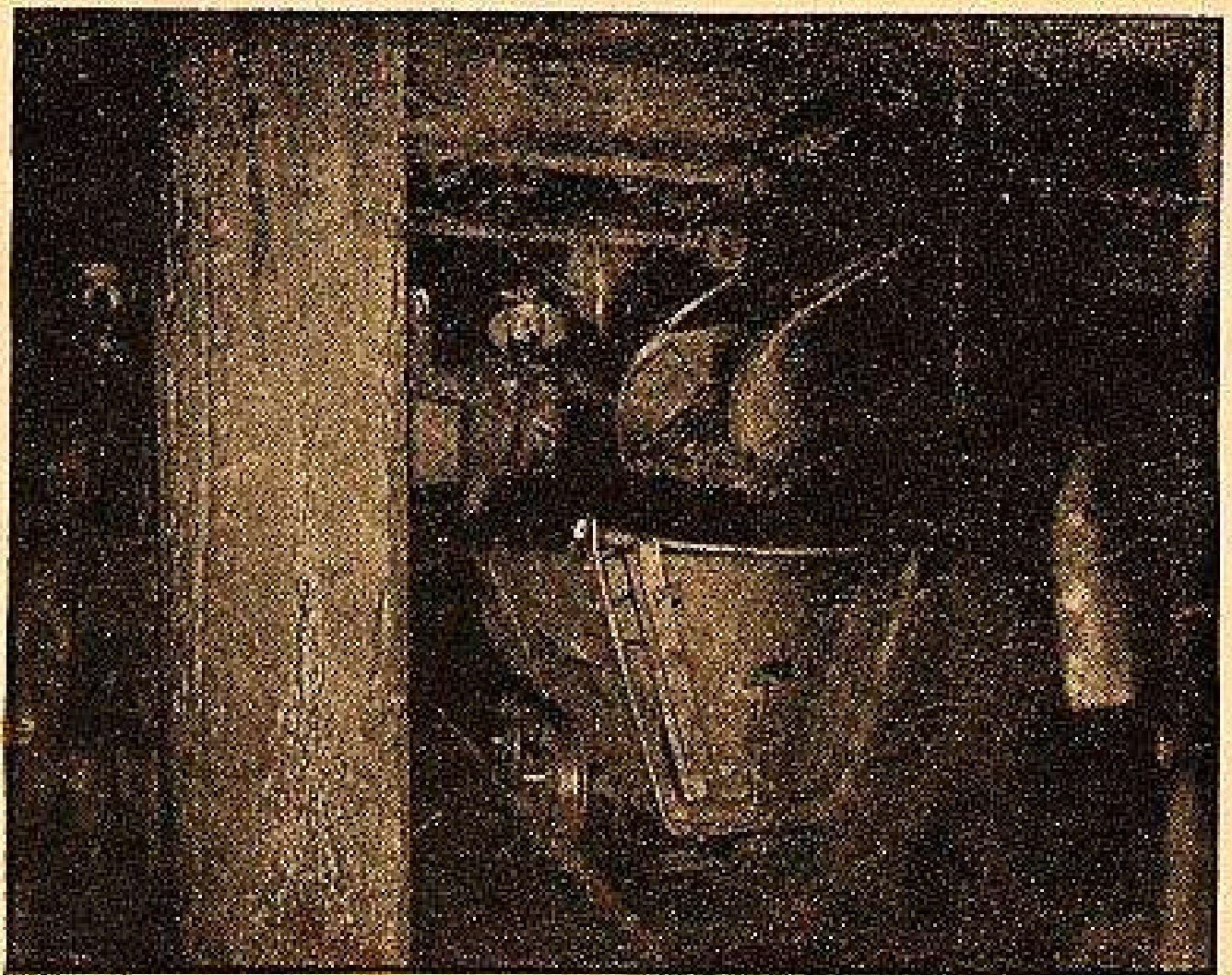


PUMPS, THIRTEENTH LEVEL—HAMILTON MINE.

This illustration appeared in Walter R. Nursey's book *The Menominee Iron Range*, published in 1891. [William J. Cummings]

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



TRAM CAR, THIRTEENTH LEVEL,  
HAMILTON MINE.

This illustration appeared in Walter R. Nursey's book *The Menominee Iron Range*, published in 1891. *[William J. Cummings]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



This early view of the wooden shaft house of the Hamilton Mine, possibly showing No. 2 Shaft, belonged to Arthur Jones, son of John Tyler Jones, who was largely responsible for locating the mine and served as the mine's superintendent. The rafters for the building in the background may be for the sandstone building which still stands at the Hamilton Mine site

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

(2012). Note the size of the men standing in the foreground in relation to the structure giving an idea of the scale of the structure. A trestle to the right would have brought iron ore to the stockpiles. *[Menominee Range Historical Museum]*





# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

This photograph shows the 2,560-gallon bailer used to dewater No. 2 Shaft of the Hamilton Mine in June, 1892. *[Menominee Range Historical Museum]*

During the fall of 1891, No. 2 shaft was being sunk at the Hamilton Mine in Iron Mountain. On October 22, Superintendent John Tyler Jones, noting an unusual commotion at the shaft's collar, arrived just in time to see James Biddick being brought to the surface, blinded and nearly dead. Biddick had just about finished the last hole in a series prior to blasting when he struck a water-filled cavity, and the released pressure tossed him like a ball. At least a portion of the water came from the Ludington Mine's A shaft sump and continued rising in the Hamilton's No. 2 shaft to within 90 feet of the collar. Since a 10-ton hoisting plant was then being installed, plans were modified to incorporate bailers to dewater the mine.

Installation was still in progress on December 31, when the Ludington Mine's hanging wall moved and water began entering that mine at the 11<sup>th</sup> level of A shaft at a rate of 6,000 gallons per minute. The Ludington was soon filled to the 9<sup>th</sup> level, and the Hamilton's No. 1 shaft, connected to the Ludington's A shaft by drifts, was also filling. The water level at the Hamilton's No. 2 shaft was lowered 182 feet by this second flooding.

The Ludington immediately reduced its labor force from 500 to 150 men, while the Hamilton, with both shafts flooded, laid off all its miners and most of the surface men.

A month after the flooding, the Ludington's bailing operations had succeeded in lowering the water level only 10 feet. The management, losing tremendous sums daily, abandoned the mine February 6, 1892, discharging the remaining 150 employees. Once the bailing operations ceased, the water in the Ludington rose at the rate of a foot an hour, reaching the 6<sup>th</sup> level by February 11.

The owner of the Hamilton Mine bought the Ludington Mine and, after considerable work driving a drift to connect the two Hamilton shafts during the winter and early spring of 1893, bailing began June 19. By June 14, the bailers had raised 87,017,954 gallons of water, lowering the water level by 896 feet in the Ludington and 1,325 feet in the Hamilton. The flow was then normal, and in six weeks the water was out of both mines.

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



The steam shovel was an expensive and vital piece of machinery, particularly for the larger mining companies, and was used to load stockpiled iron ore into the railroad cars. The steam shovel and crew of the Hamilton Shaft of the Chapin Mine are pictured here in about 1900. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

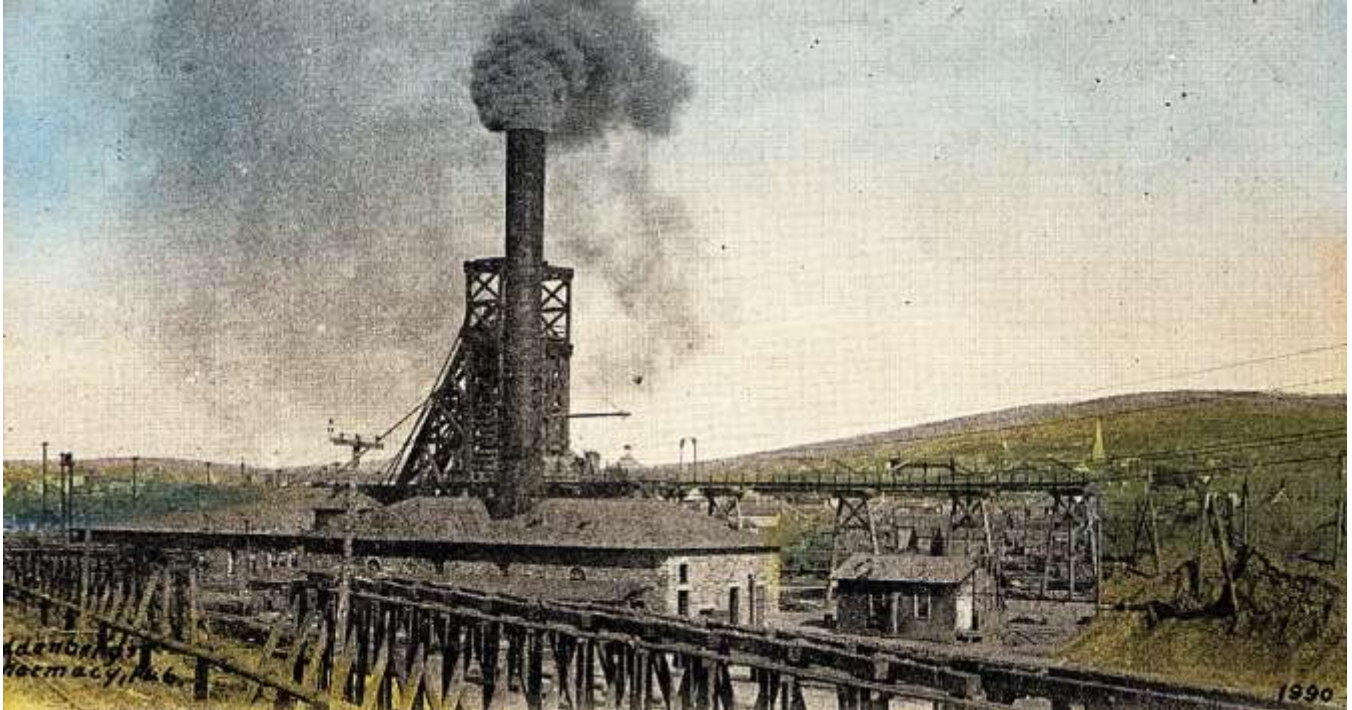
*[Compiled and Captioned by William John Cummings]*



This photograph, probably dating from about 1912, shows the Hamilton Shaft of the Chapin Mine, including the sandstone engine house at the left, which used flat cables to pull up the cage and the skips filled with iron ore. Note the wooden shaft housing and the smokestack rising from another mine building. *[Menominee Range Historical Museum]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

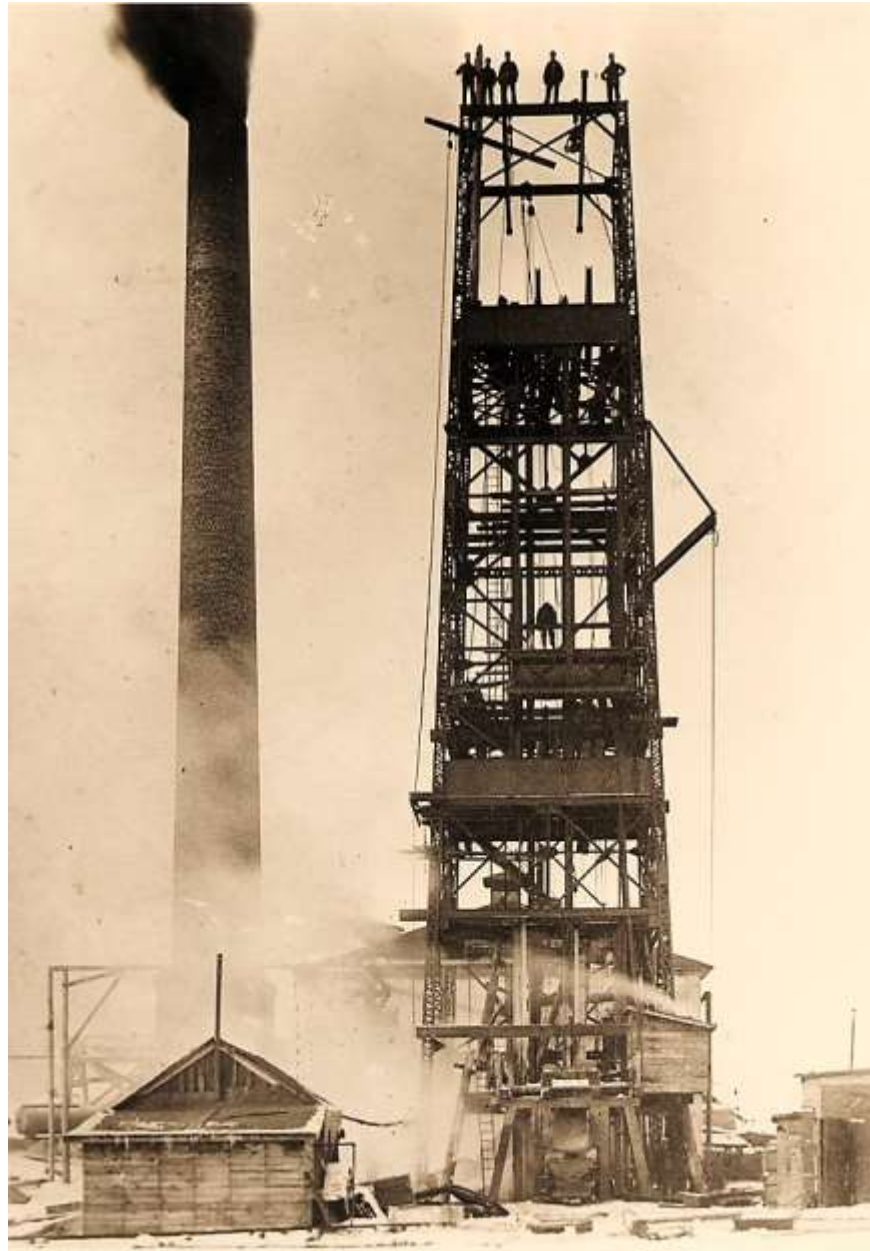


Postmarked Iron Mountain, June 29, 1914, this tinted halftone postcard view, identified as the Oliver Iron Mining Company Chapin Mine, Iron Mountain, Mich., shows the Hamilton Shaft of the Chapin Mine. *[William J. Cummings]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



When the Oliver Mining Company decided to rebuild the Hamilton Shaft and install electrical pumps, the era of the Cornish Pumping Engine, a marvel of the steam age, came to a close.

The shaft's inside dimensions, originally 7 x 21 1/3 feet, were increased to 9 x 21 1/3 feet to accommodate the water column pipes and transmission cables for the electrical pumps. The shaft was also converted from six to eight compartments, relined with reinforced concrete dividers, end plates and poured concrete walls. To facilitate this work, a concrete mixing plant was built near the shaft, consisting of a crusher bucket elevator, a revolving screen, two concrete mixers and a pocket divided into three compartments for sand and gravel.

Relining began May 3, 1912, about 83 feet below the shaft's collar and was completed to the surface June 29. Work was carried on in three 8-hour shifts by a force of about 40 men supervised by the company's chief construction engineer, S.W. Tarr, of Duluth.

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

The work was done in sections, each section started on permanent bearers and worked upward. The average amount of material used to reline one 6-foot vertical section was one cord of stone for back filling, 10 cubic yards of concrete and 550 pounds of steel for reinforcing.

The average time required to concrete 6 vertical feet was 24 hours, pouring concrete and removing an equal amount of forms. After the forms were removed, they were taken to the surface, thoroughly cleaned and given a coat of crude oil.

Work progressed at the rate of 60 to 70 feet per month, and by mid-February, 1914, the shaft had been relined to the twelfth level, a depth of 1,000 feet.

There the first of two pumping stations was cut out, measuring 30 x 100 feet and containing one set of electrical centrifugal pumps. A second plant was located at the sixteenth level, about 430 feet below the twelfth level, and the shaft was relined the entire distance.

The smokestack pictured here still stands (2012) on Iron Mountain's North Side, but the headframe was dismantled long ago. *[Menominee Range Historical Museum]*

## HEWITT MINE

**NW ¼ of NE ¼ of Section 31,  
Township 40 North, Range 30 West**

**Iron Mountain**

**Opened: 1880**

*[later the Millie Mine]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

## KEEL RIDGE MINE

SE  $\frac{1}{4}$  of SW  $\frac{1}{4}$  and S  $\frac{1}{2}$  of SE  $\frac{1}{4}$  of  
Section 32,

Township 40 North, Range 29 West

Iron Mountain

Opened: 1880

Operator: Emmet Mining Company (1880)

*[formerly the McKenna Mine]*



This view of the Keel Ridge Mine was taken by Jorgen J. Eskil in 1900.

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

[Compiled and Captioned by William John Cummings]

## LUDINGTON MINE

S ½ of SE ¼ of Section 25,

Township 40 North, Range 31 West

Iron Mountain

Opened: 1880

[part of the Chapin Mine after 1894]



A group of Chapin and Ludington mining officials and surface workers posed informally around a Rand drill driven by compressed air at the Ludington Mine in 1886 or 1887. According to contemporary notations on the back of this dated photograph, the following men were among those pictured: Captain William Oliver, Chapin Mine; Per Larsson, mining engineer, Chapin Mine; Edward E. Brewster, chemist, Chapin Mine; Duff LaVictore, machinist; and Thomas Polkinghorn. Harry McDermott, the master mechanic at the Ludington Mine, appears in the lower right, wearing a checked shirt, black hat and sporting a moustache and beard. Edmund Kent, the master mechanic at the Chapin Mine and Iron Mountain's second mayor, has his thumbs hooked in the front pockets of his pants to the left of the Rand drill. The man standing at the far right with a moustache and wearing a light-colored hat and dark vest was A.D. Moore, superintendent of the Ludington Mine. [Menominee Range Historical Museum]



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



Taken by Jorgen J. Eskill in about 1888, this view shows the Ludington Mine and the Hamilton Mine. *[Menominee Range Historical Museum]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



Taken by Iron Mountain photographer George S. Van Stone between 1893 and 1895, this view of the Ludington Mine shows a shaft house at the far left and another shaft house at the right, as well as a brick building, probably an engine house, to the left of center, and another brick or sandstone engine house to the right of the shaft house at the left. The building where steam is being emitted appears to have been a sawmill. *[Keen S. Scott]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

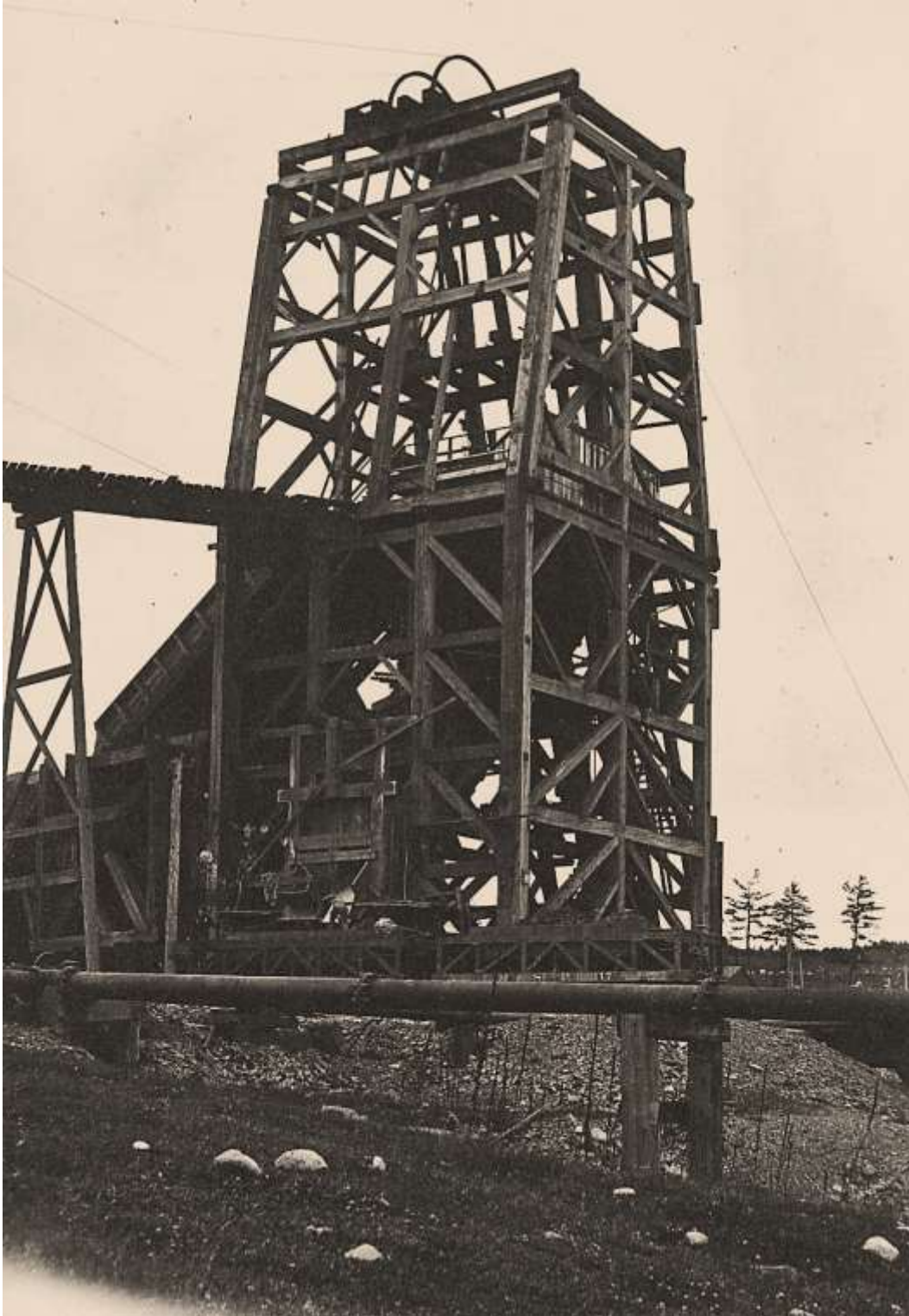
*[Compiled and Captioned by William John Cummings]*



These mining officials from Iron Mountain's Ludington Mine posed for H.S. Emory, an Appleton, Wisconsin, photographer, between 1883 and 1890. They are identified as follows: (back row) William B. Catlin, surface boss; Robert Bankes, cashier and later superintendent; A.D. Moore, superintendent; Harry McDermott, master mechanic; Francis A. Brown, chief chemist; Sam Spear, bookkeeper; (front row) Captain Grey; Captain Sam Langdon; Captain Henry Shields; Morris Danielson, blacksmith; Tom Hancock, carpenter. *[Menominee Range Historical Museum]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



Jorgen J. Eskil, pioneer Menominee Range photographer, took this photograph of the No. 2 Shaft House of Iron Mountain's Ludington Mine in about 1890. Note the wooden timbering and the sheaves at the top for the cables used in hoisting ore and the skips in which the miners rode up and down the shaft. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

[Compiled and Captioned by William John Cummings]



RAND DRILLS—4TH LEVEL LUDINGTON MINE.

This illustration appeared in Walter R. Nursey's book *The Menominee Iron Range*, published in 1891. [William J. Cummings]

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



This detail of a panoramic view of the Hamilton and Ludington Shafts of the Chapin Mine was taken on July 21, 1904. Note the air pipe which supplied compressed air from Hydraulic Falls near Quinnesec. *[Menominee Range Historical Museum]*

## **McKENNA MINE**

**SE ¼ of SW ¼ and S ½ of SE ¼ of  
Section 32,  
Township 40 North, Range 29 West  
Iron Mountain**

**Discovered by John McKenna**

**Opened: 1880**

*[later the Keel Ridge Mine]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

## MILLIE MINE

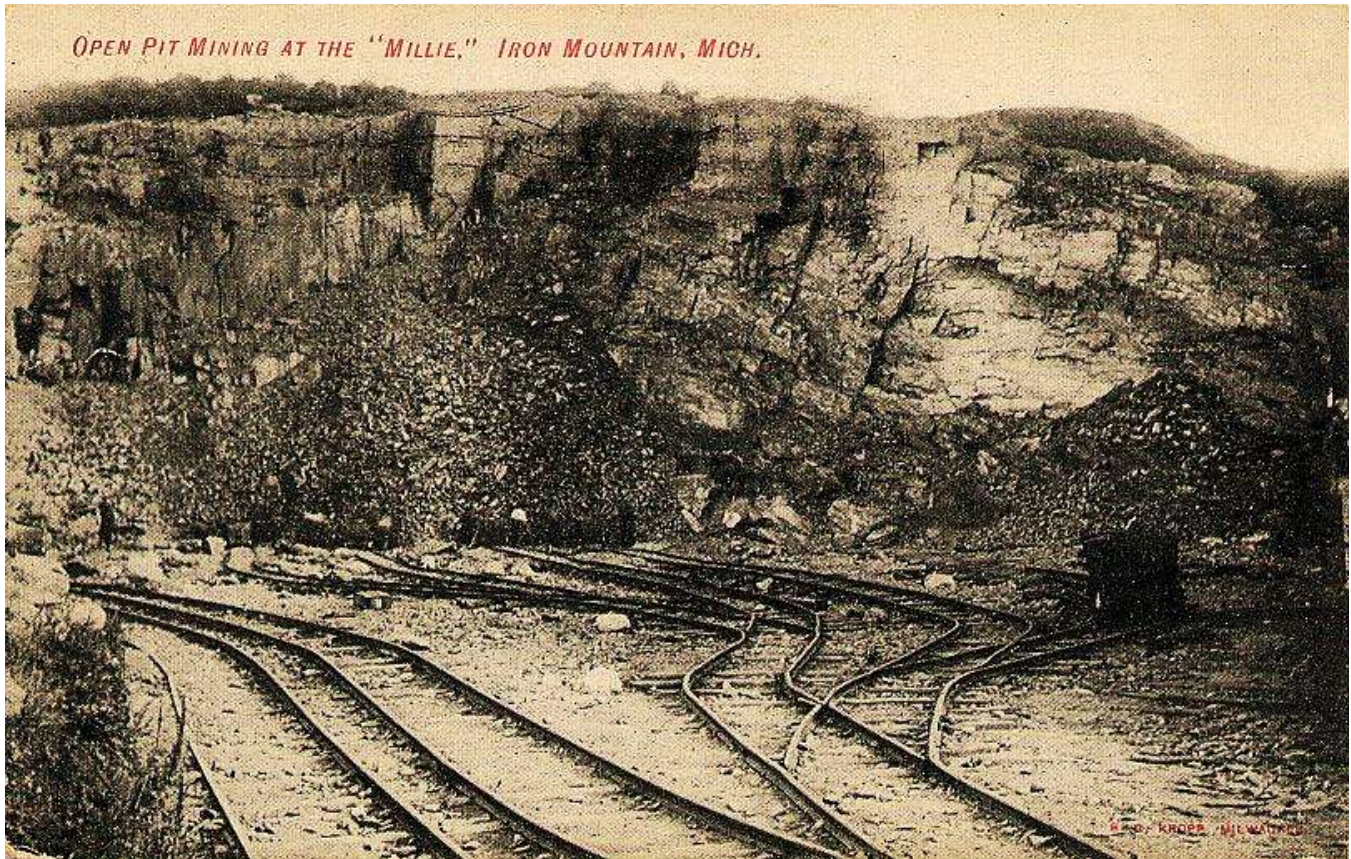
NE  $\frac{1}{4}$  of NW  $\frac{1}{4}$  and NW  $\frac{1}{4}$  of NE  $\frac{1}{4}$  of  
Section 31,

Township 40 North, Range 30 West

Iron Mountain

Opened: 1880

*[formerly the Hewitt Mine]*



Postmarked Iron Mountain, November 16, 1908, this postcard view shows open pit mining at the Millie Mine in Iron Mountain, Mich. Another postcard on eBay was postmarked in 1907. *[William J. Cummings]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



This unused postcard shows an unidentified group of eleven miners wearing carbide lamps on their mining hats and may have been taken in the Millie Mine between 1908 and 1918. Note the slabs of logs at the far left. *[William J. Cummings]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



This unused postcard shows an unidentified group of four miners wearing carbide lamps on their mining hats and may have been taken in the Millie Mine between 1908 and 1918. Three miners posed behind the seated group, but their faces were cut off by the camera. *[William J. Cummings]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

## PEWABIC MINE

N  $\frac{1}{4}$  of Section 32, Township 40 North, Range 30 West

Iron Mountain

Opened: 1887



This panoramic view of the Pewabic Mine, facing north, was taken by Jorgen J. Eskil, pioneer Menominee Range photographer, between 1890 and 1900. The mining superintendent's house is visible at the far left. *[Menominee Range Historical Museum]*



This view of the Pewabic Mine, facing north, was probably taken by Jorgen J. Eskil, pioneer Menominee Range photographer, between 1890 and 1900. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

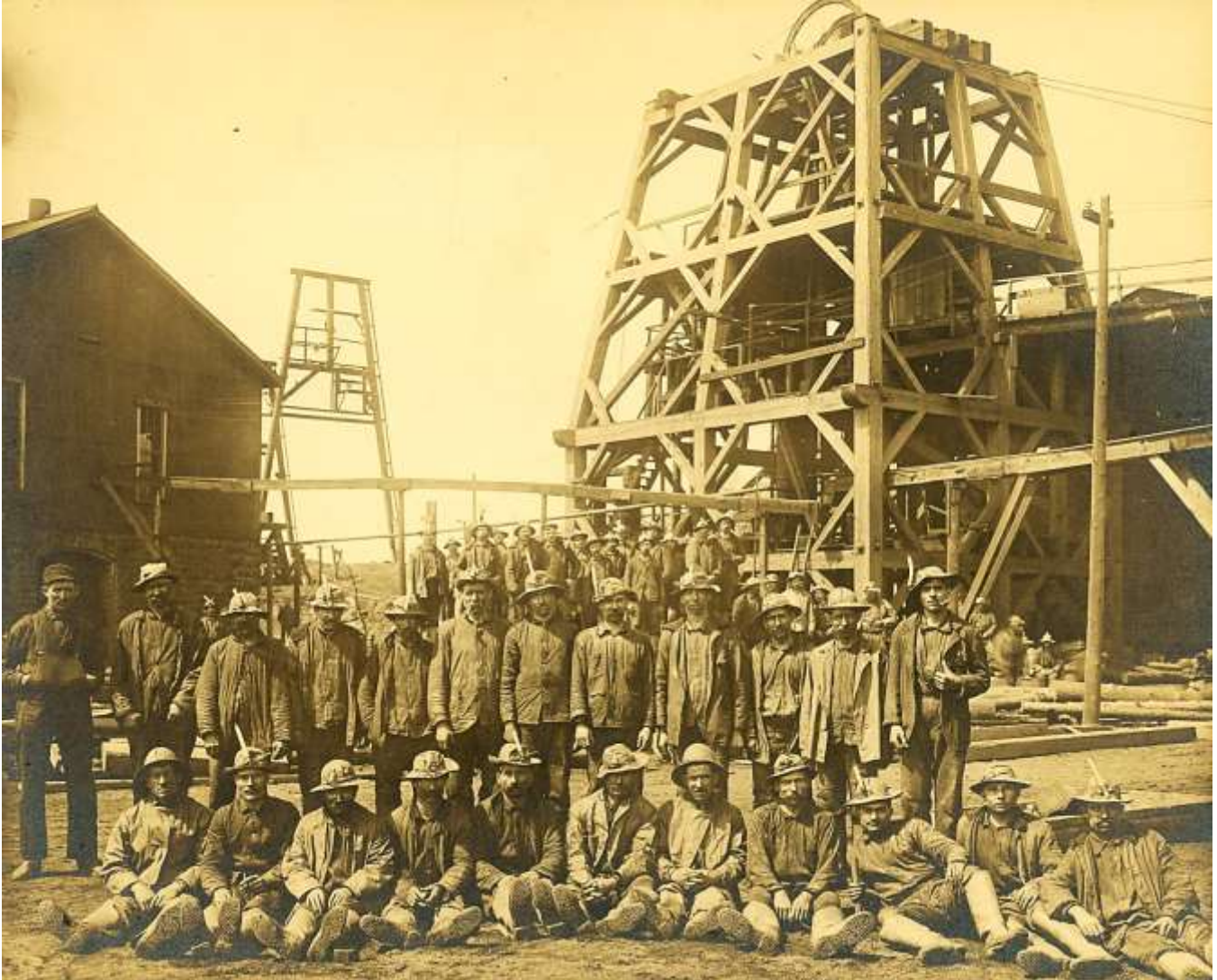
*[Compiled and Captioned by William John Cummings]*



This view of the Pewabic Mine concentrating works was taken by Jorgen J. Eskil, pioneer Menominee Range photographer, between 1890 and 1900. *[Menominee Range Historical Museum]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

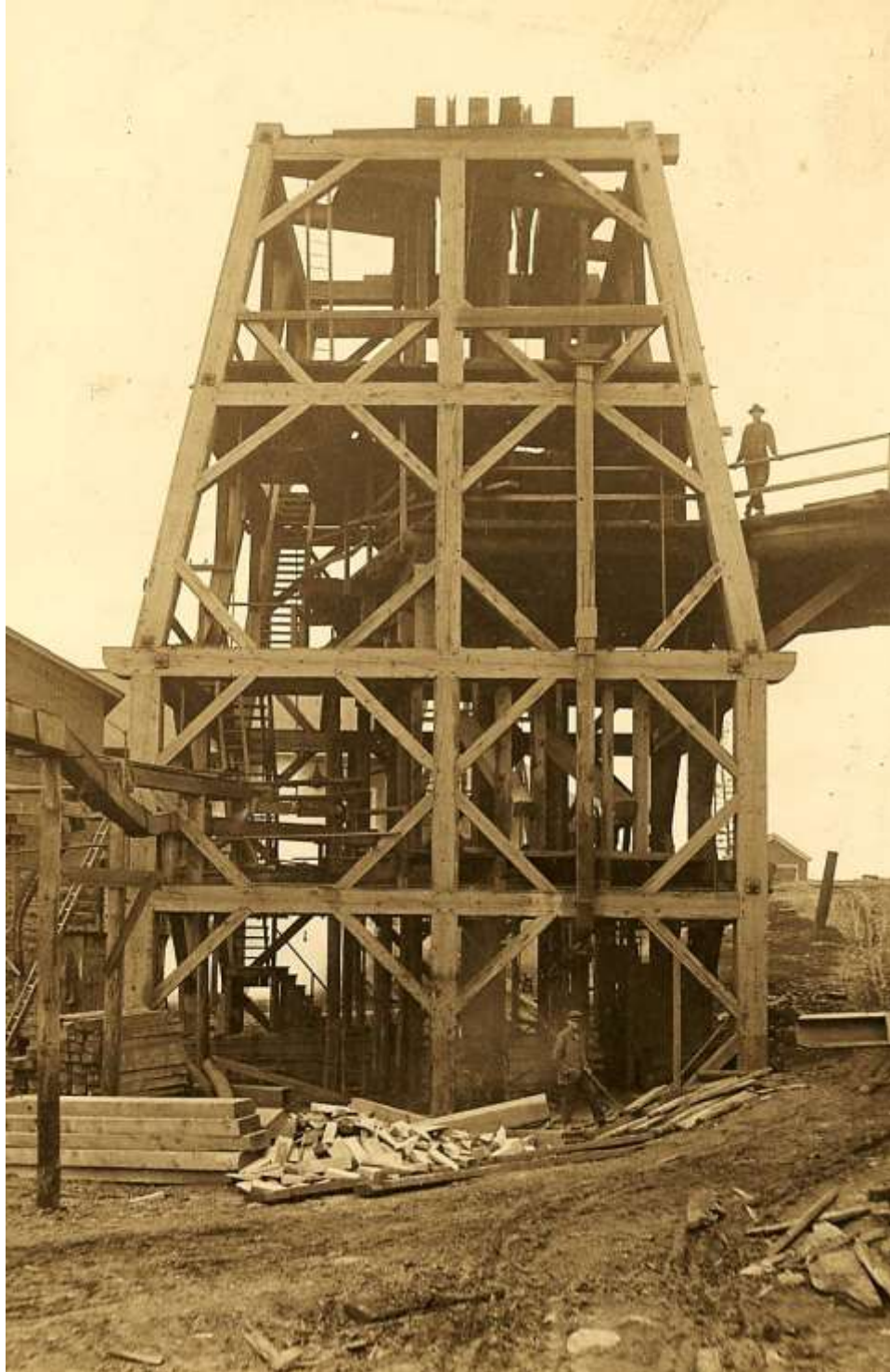


This view of the wooden shaft housing of the Pewabic Mine was taken by Jorgen J. Eskil, pioneer Menominee Range photographer, between 1890 and 1900. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



This view of the wooden shaft housing of the Pewabic Mine was taken by Jorgen J. Eskil, pioneer Menominee Range photographer, between 1890 and 1900. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

[Compiled and Captioned by William John Cummings]



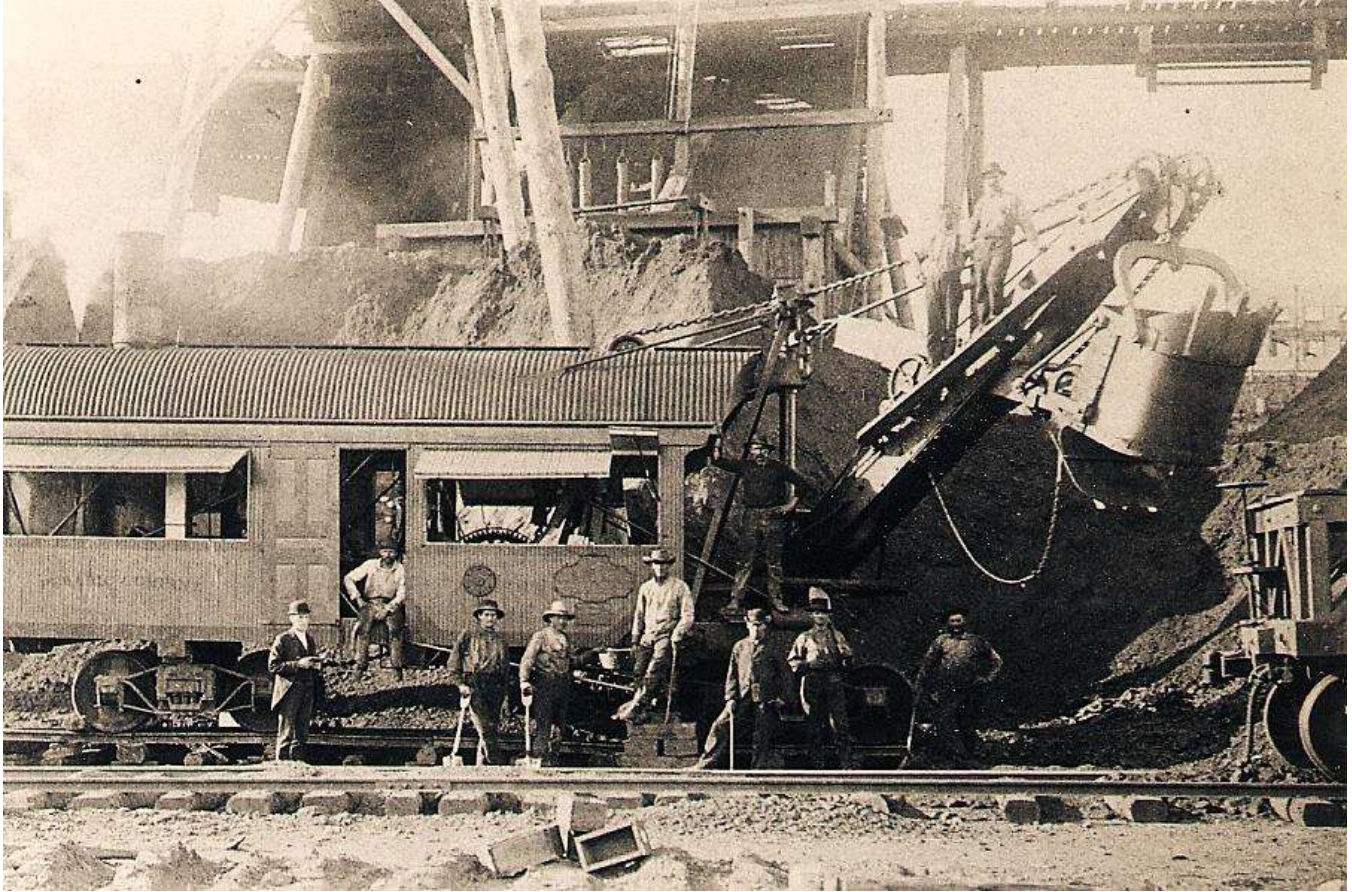
MINERS DESCENDING SHAFT, PEWABIC MINE.

This illustration appeared in Walter R. Nursey's book *The Menominee Iron Range*, published in 1891. [William J. Cummings]



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



This view shows the Pewabic Mine steam shovel with a crew of workers, loading iron ore into railroad cars for shipment. The photograph was probably taken by Jorgen J. Eskil, Menominee Range pioneer photographer, in 1893. *[Menominee Range Historical Museum]*



## PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

[Compiled and Captioned by William John Cummings]



At 3 p.m. on Thursday, October 28, 1894, twelve miners in Iron Mountain's Pewabic Mine were entombed while at work on the fourth level when a room above them collapsed. One of the miners, Peter Gabardi, was caught and crushed to death under the falling mass. However, the eleven miners pictured above were finally rescued between 6 and 7 a.m. Saturday, having been entombed for over 40 hours. Only two men in the back row of this photograph have been positively identified. They are William Beard, at the extreme left, and Peter Hallberg, third from the left. The names of the remaining men are Stephen Allen, John Forrell, Samuel Husband, George Marcous, William Oliver, Thomas Penglase, George Rickard, John Thomas and George Wilcox. In the accounts of the accident in *The Range-Tribune* and *The Current* there was confusion with some of the names. Note the "oilers" worn due to wet mining conditions and also the miner's candlesticks on their hats which were used to light the individual miner's work area within the mine. [Gene Derwinski/Dick Ferris]



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



This view of the Pewabic Mine, showing the wooden shaft housing, was taken by Jorgen J. Eskil, pioneer Menominee Range photographer, in May, 1899. *[Menominee Range Historical Museum]*

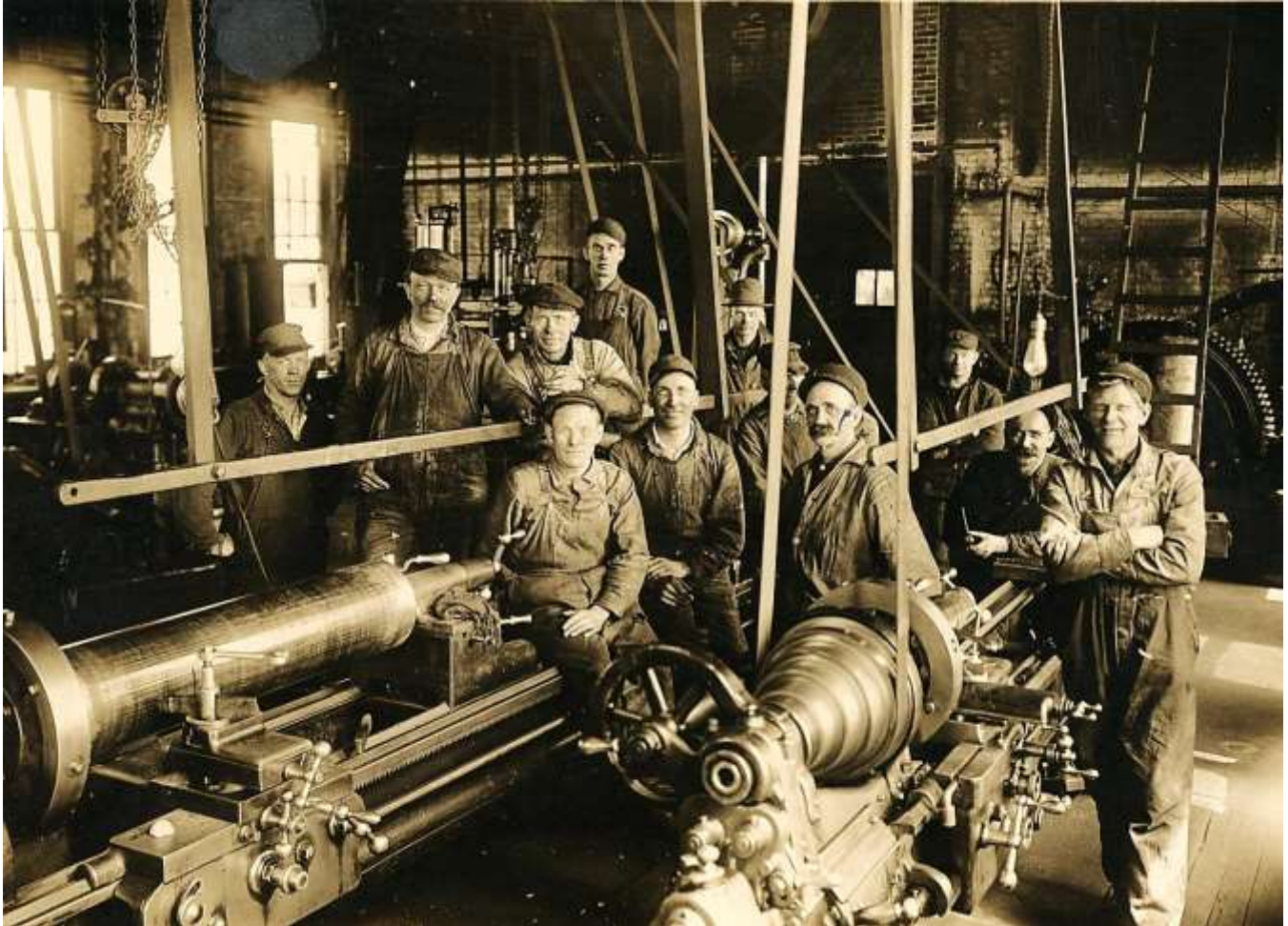


This view shows the Pewabic Mine, looking north, taken between 1900-1915. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



This interior view of the Pewabic Mine machine shop, dating between 1900 and 1915, shows a number of workers and many flat belts used to run heavy mining equipment. James Burgess is one of the men pictured.

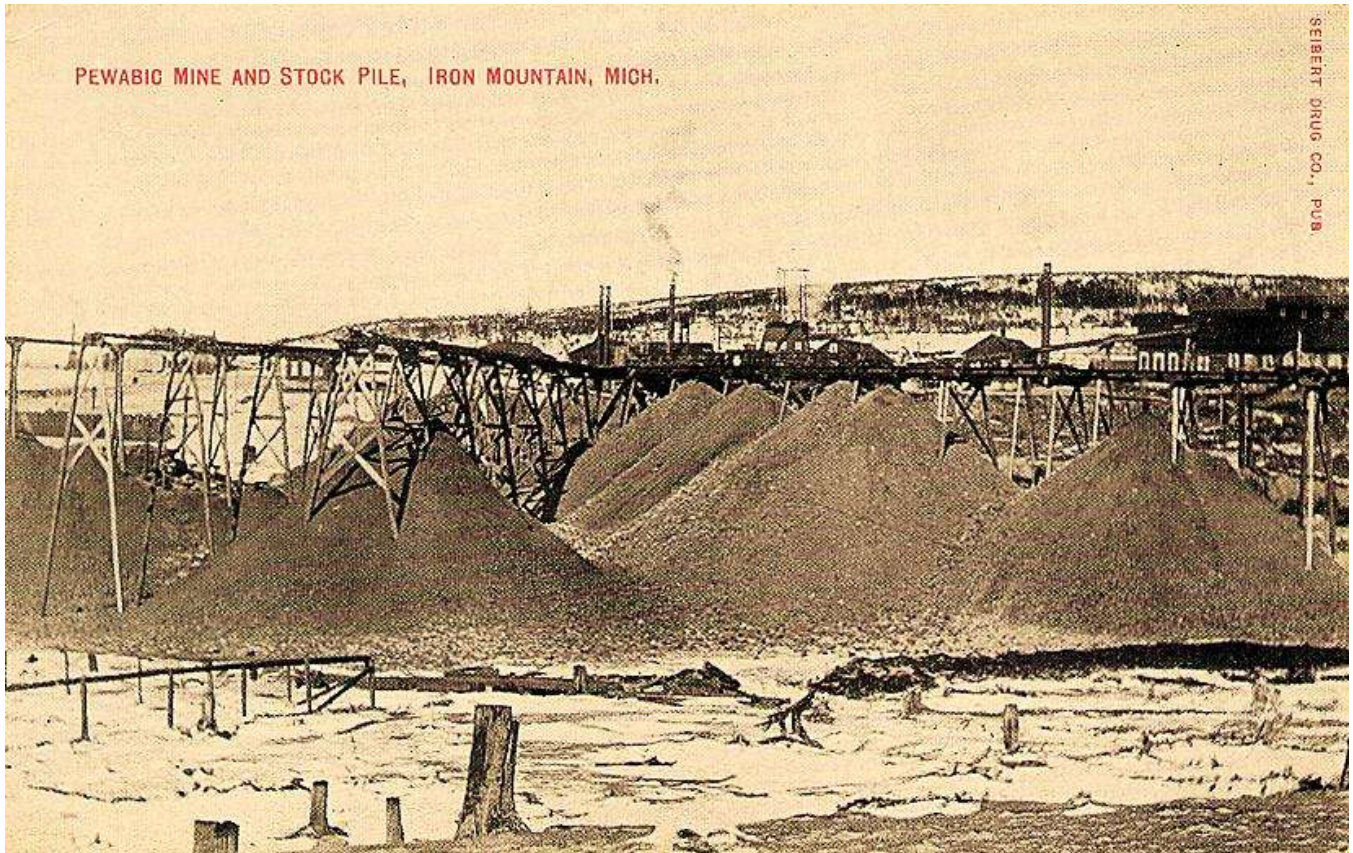


This panoramic postcard view, taken by Nels M. Nelson, shows the Pewabic Mine complex between 1911 and 1918. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



This unused postcard view, dating between 1910 and 1915 and published by the Seibert Drug Company, shows the Pewabic Mine in the background and huge trestles and stock piles in the foreground. *[William J. Cummings]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

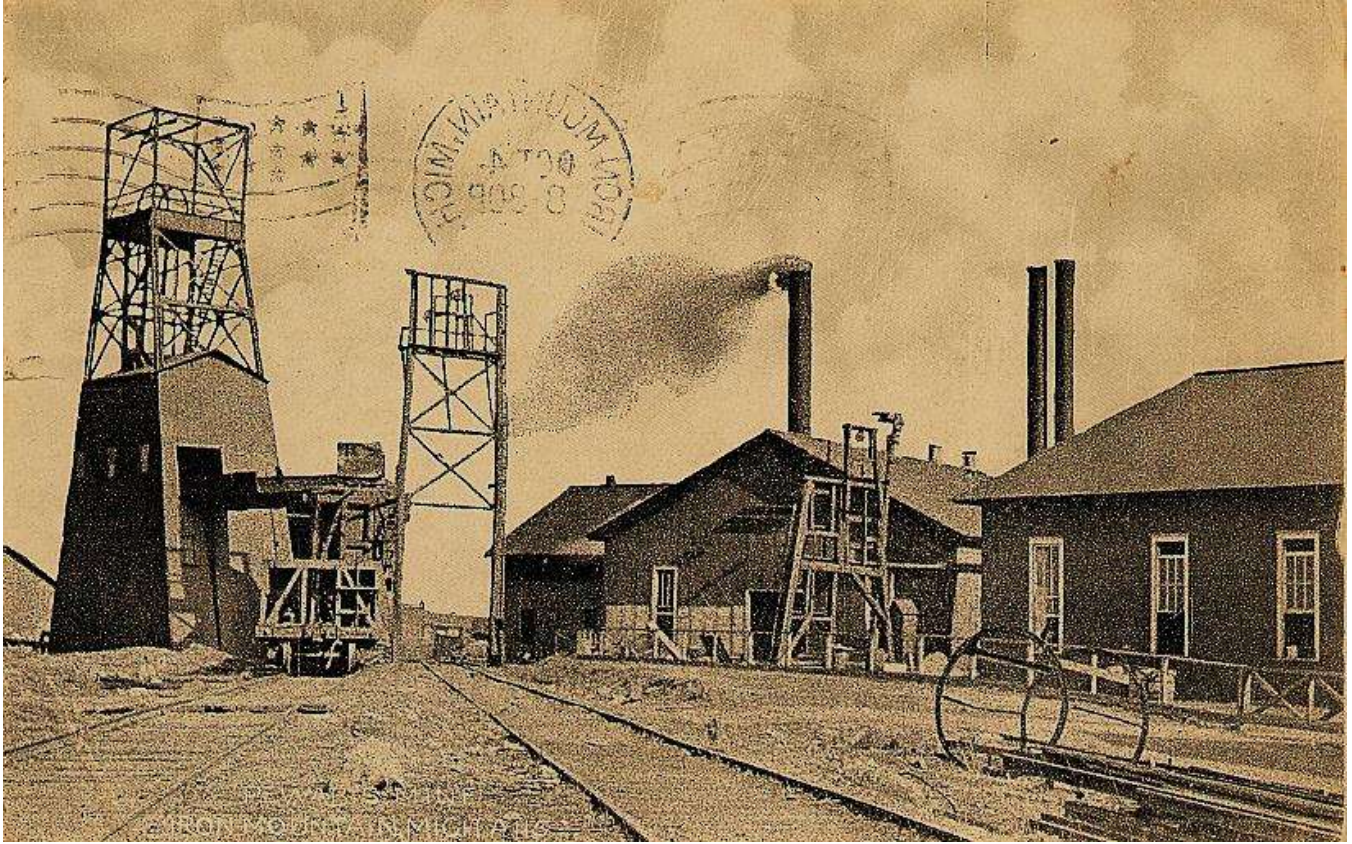


This unused postcard view, dating between 1910 and 1915 and published by the Seibert Drug Company, shows the trestles and stock piles at the Pewabic Mine. Note the team of horses and men on a sled in the foreground at the left. *[William J. Cummings]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



This halftone postcard view, postmarked Iron Mountain, xxxxx 1910, shows the Pewabic Mine.  
*[William J. Cummings]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



William Joseph Trestrail (left) and his Italian mining partner, wore oilskin clothing and rubber boots to protect them from the wet conditions at the Pewabic Mine in about 1910. Note the miner's candlesticks in their hats which provided illumination for work in the mine. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



The Pewabic Mine Location had a number of residences and a boarding house, pictured here in about 1905. Note the boarders posed for the photographer with a variety of musical instruments. *[Menominee Range Historical Museum]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



The Pewabic Mine Location had a number of residences and a boarding house, pictured here in about 1905. Note the boarders posed for the photographer with a variety of musical instruments in this detail of the previous photograph. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

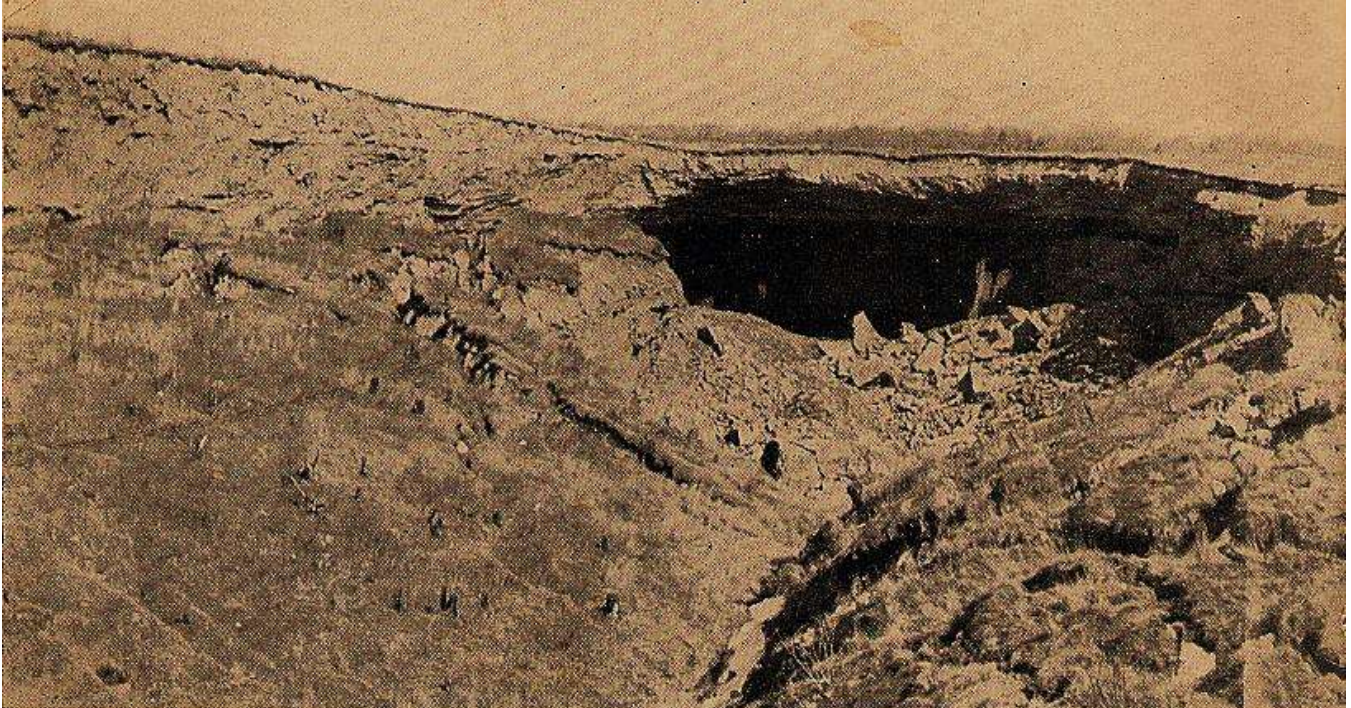


The Pewabic Mine Location had a number of residences and a boarding house, pictured here in about 1905. Note the boarders posed for the photographer with a variety of musical instruments in this additional view of the Pewabic Mine boarding house residents. *[Menominee Range Historical Museum]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



Cave In at the Pewabic Mine, Iron Mountain, Mich.

This unused halftone postcard view, dating between 1918 and 1930, shows the cave in at the Pewabic Mine in Iron Mountain. After mining operations ceased at the Pewabic Mine in 1918, the mine was intentionally blasted, causing it to cave in. *[William J. Cummings]*



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



Taken between 1940 and 1950, this unused postcard view shows the cave-in at the Pewabic Mine. *[William J. Cummings]*

## **RANDVILLE MINE**

Section 31,  
Township 42 North, Range 29 West

**Randville**

Exploration in **1929**

## **SPENCER MINE**

Near **Iron Mountain.**

Opened:



# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

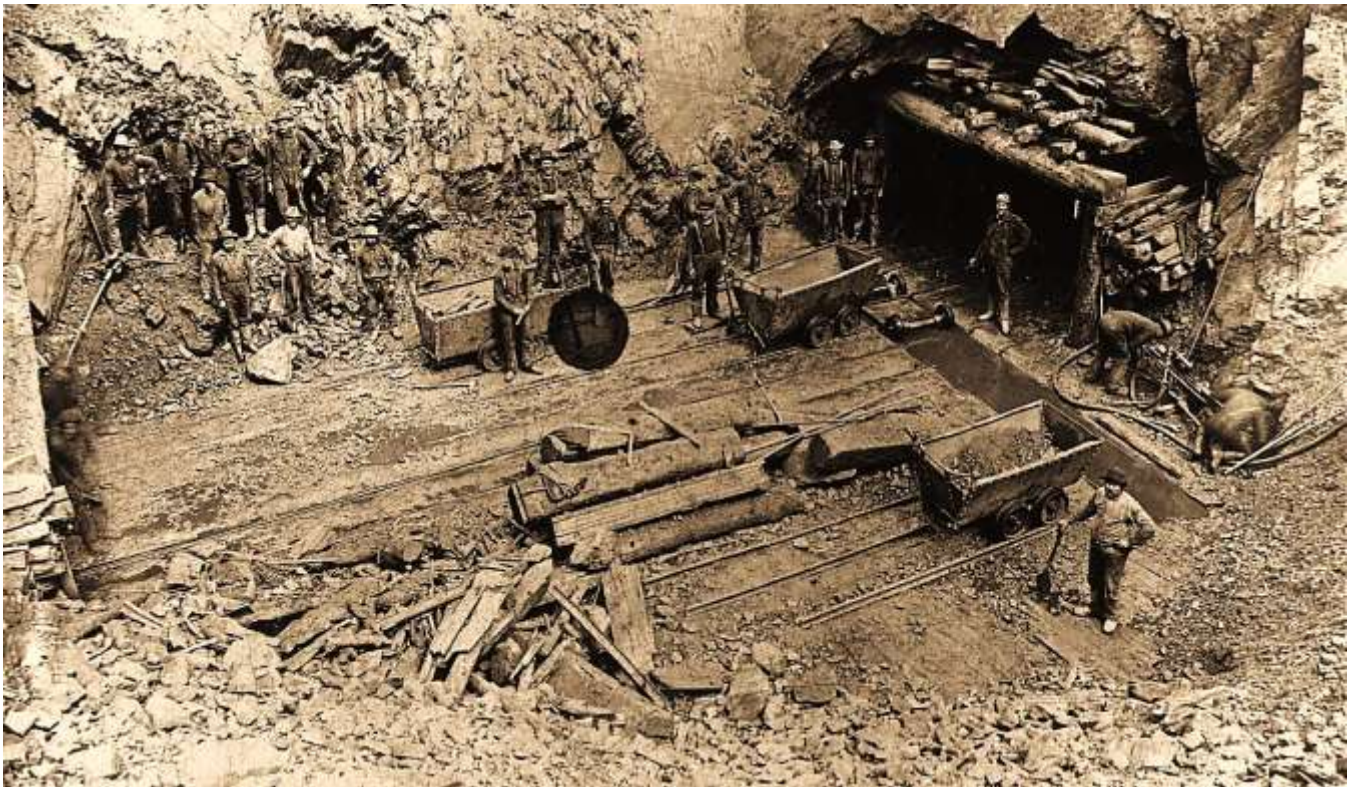
## TRADERS MINE

S ½ of SW ¼ of Section 17, Township 40 North, Range 30 West

Iron Mountain

Opened: 1895

*[See Antoine Mine/Clifford Mine.]*



Thought to be the Traders Mine, located to the north of Lake Antoine and also known as the Antoine Mine and later the Clifford Mine, this exceptional view must have been taken shortly after the mine opened in 1895. The timbering process in evidence at the entrance was a method for supporting an excavation by the use of timber posts and caps, laced with cribbing (timber used as supports and to prevent rock falls) and lagging (small, split timbers placed over caps or behind posts to prevent fragments of rock from falling through). To the right of the tunnel entrance two men appear to be working with Rand drills which were run by compressed air carried to the equipment in rubber hoses. The small ore cars brought the ore out of the mine using a system of tracks and were pushed by men called trammers. Trimming was sometimes done by mules, although this technique was used infrequently in Dickinson County mines. Later on small electric locomotives provided the power needed for this work. *[Menominee Range Historical Museum]*



## PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



Dickinson County's worst train wreck occurred at 6:30 a.m. on October 31, 1906, in a dense fog at Quinnesec Junction. A northbound freight train on the Lake Superior Division track of the Chicago, Milwaukee & St. Paul Railway collided with a train used to transport miners to and from the Traders Mine. The freight train was composed of eight loaded and seven empty cars and the passenger train consisted of two coaches. When the two engines collided head-on the impact was so great that the coal tender of the passenger train was driven back halfway through the forward coach. Five miners – Thomas Cowling, Leonardo Galli, Charles Morell, John Pleckinger and Joseph Trepanier – died and nine others were seriously injured. *[Menominee Range Historical Museum]*

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*



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# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

## WALPOLE MINE

SE ¼ of Section 32, Township 40 North, Range 30 West

Iron Mountain

Opened: 1887

Operated by the Pewabic Mining Company.



Taken by Jorgen J. Eskil, pioneer Menominee Range photographer, in May, 1899, this photograph shows the Walpole Mine, located on Pewabic Hill in Iron Mountain. *[Menominee Range Historical Museum]*

## WEST CHAPIN MINE

SE ¼ of NE 1/4 , N ½ of SE ¼ and SW ¼ of SE ¼ of Section 26,  
Township 40 North, Range 31 West

Iron Mountain

Exploration in 1882

# PHOTOGRAPHS OF THE MENOMINEE IRON RANGE MINES

*[Compiled and Captioned by William John Cummings]*

## WEST LUDINGTON MINE

West of Ludington Mine

Iron Mountain

Exploration in 1901