

at the 13th, 27th and 34th levels, and judging from results in the limited amount of drifting done to date, at the 18th level, should be a valuable asset. Crosscuts from the 13th to the 34th level inclusive will command a length of 1,800 feet on the dip of the lode.

"No. 2 shaft was sunk and timbered 804 feet to a point 4,001 feet below the collar. Shaft was bottomed at this depth October 18, since which time work in shaft has been confined to cutting the four necessary stations below the 34th level station, viz: at the 39th, 44th, 49th and 53rd levels, respectively.

"Very good progress was made during the year in sinking the shaft, and in cutting the stations. Four of these stations are completed.

Several of the groups of veins were intersected in the shaft, at and below 3,105 feet, were well mineralized."

HOME COPPER MINING COMPANY.

Idle.

HULBERT MINING COMPANY.

Idle.

HUMBOLDT COPPER COMPANY.

Idle.

HOUGHTON COPPER COMPANY.

During 1912 the results of the exploration have been very good. As the shaft has been found to be too far in the foot wall, it was discontinued at the 623-foot level. A winze has been sunk 200 feet from this level in the lode and disclosed good ore. Drifts north and south have also shown much copper. The ore is very similar to that of the main lode at the Superior Mine and which is supposedly a much altered portion of the Battle lode.

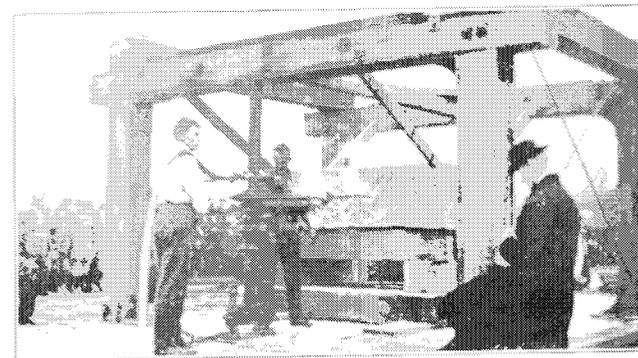
Owing to the remarkably successful opening up of the west lode at the Superior Mine, some exploration for this lode has been done at the Houghton. Comparatively little has yet been done. The present openings are not very promising, and attention is chiefly confined to the Superior lode.

At the 623-foot level the drifts are being extended and at the 825-foot level drifting has recently been started.

INDIANA MINING COMPANY.

Surplus of assets December 31, 1912, \$53,060.23.

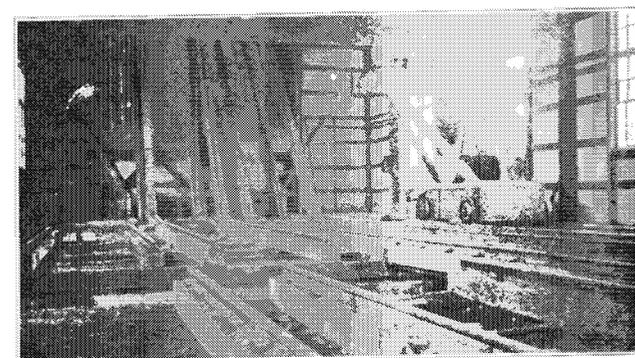
The Indiana, like other properties in which he was interested, suffered



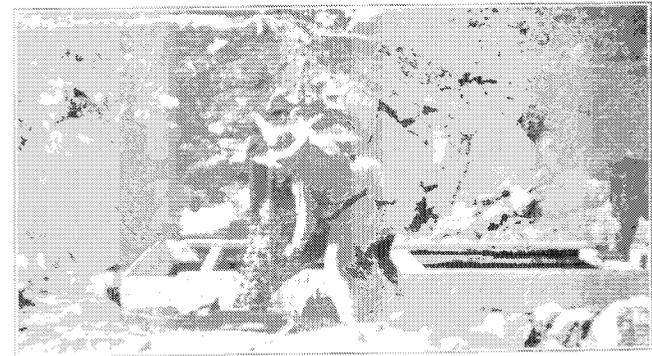
A. MACHINE DRILL, CONTESTE, CALUMET, 1912. A TWO-MAN MACHINE RUNNING.



B. WHITE PINE NO. 2, TEMPORARY SHAFT.



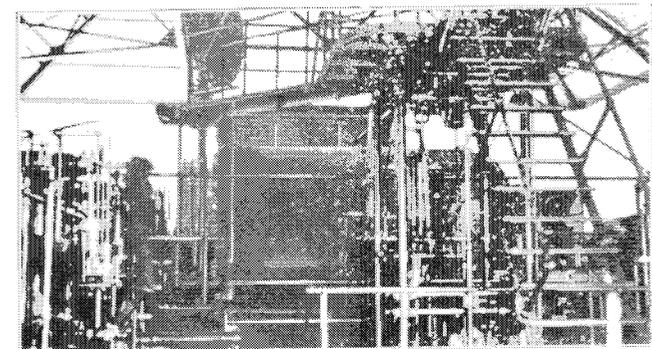
C. COLLARIOPSE, KEARSARGE MINE, DRILL CAR AT THE RIGHT.



A. MAKING CONCRETE COLLAR, NEW SHAFT AT NORTH LAKE MINE, 1912,
ONTONAGON COUNTY.



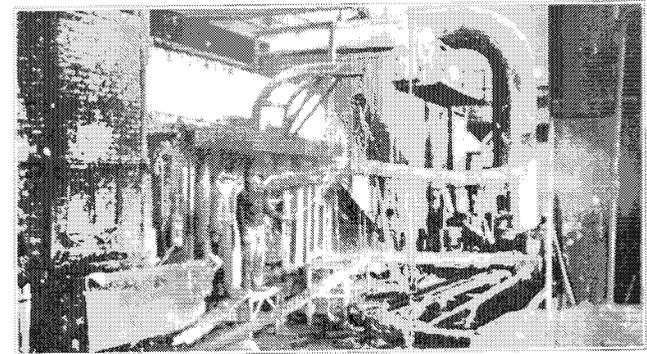
B. CRUSHER FEED, FRANKLIN JR. MINE, NO. 1 SHAFT.



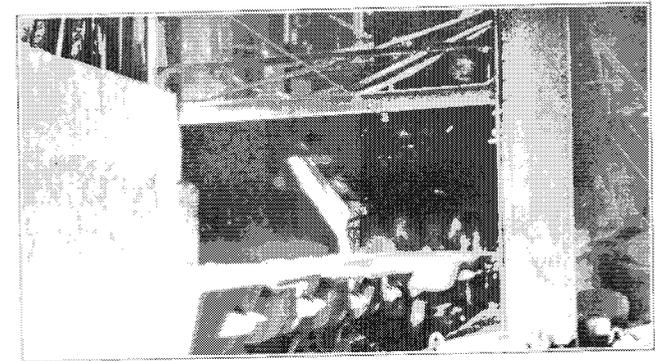
C. NEW HOIST AT FRANKLIN JR. MINE, NO. 1 SHAFT.



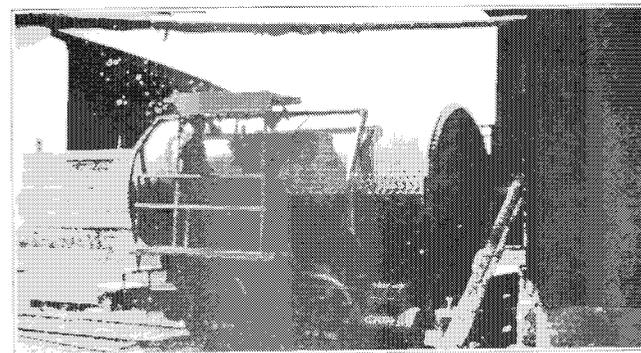
A. COOLING AND LOADING INGOTS, MICHIGAN SMELTER.



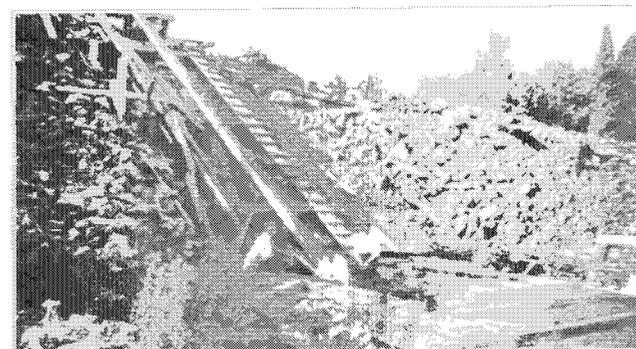
B. REVERBERATORY FURNACE, MICHIGAN SMELTER.



C. TIGERING SLAG, MICHIGAN SMELTER.



A. AIR ENGINE, VICTORIA MINE.



B. NONESUCH MINE, ONTOXAGON COUNTY, 1912.



C. STARTING EXCAVATION FOR SHAFT AT SOUTH LAKE MINE, 1912.

In 1912 \$550,000 was received in dividends from the Champion Copper Co. During 1912, 160 acres of mineral land was sold to the Naumkeag Copper Co. for \$21,825 and 6,340 shares stamped \$10 paid in.

SECTION TWELVE EXPLORATION COMPANY.

Idle.

SENECA MINING COMPANY.

Balance of liabilities December 31, 1912, \$142,318.90.

Exploration of the Kearsarge vein was discontinued in April, 1911, owing to unfavorable results and unsuitable location of the shaft which had been sunk for development purposes. The mine has since been idle. The directors state that they "believe that the only practical method in developing your property is in connection with Gratiot, which will obviate the great expense, not now justified by known conditions, of sinking vertical shafts to explore the lode on the southern portion of your property." No development work was done during 1912. Liabilities increased \$10,207.95.

SESTER-DUPEE DEVELOPMENT COMPANY.

Idle.

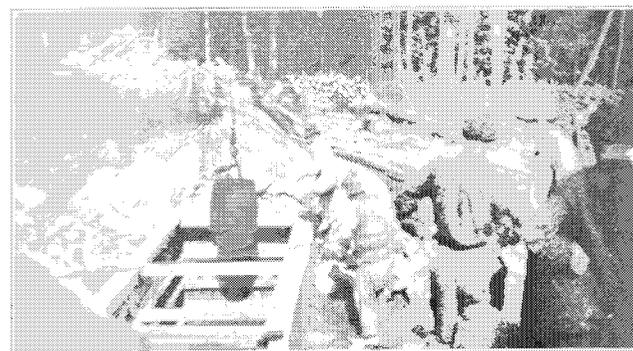
SOUTH LAKE MINING COMPANY.

Surplus assets January 1, 1913, \$29,885.77.

In July, 1911 the company started to sink a shaft to open up lodes cut by drilling, but much water was encountered and the site abandoned. The property then remained idle for several months, but the necessary funds having been arranged for and a superintendent, R. M. Edwards, appointed, work was resumed this summer. A vertical shaft was started at a point 1,500 feet south and 1,500 feet east of the N. W. corner of sec. 31 and 200 feet from the main line of the Copper Range Ry. The shaft starts in rock at the base of Evergreen Bluff.

Mr. Edwards states:

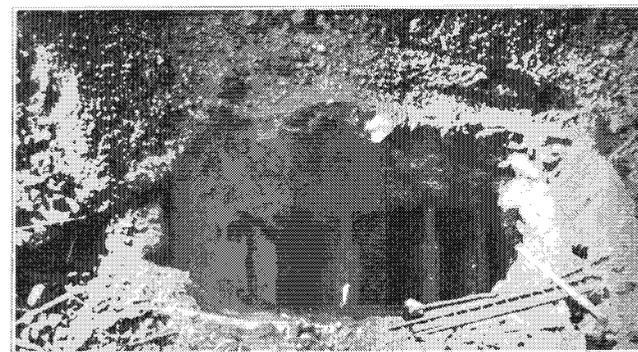
"The location of the shaft is such that the lower lodes of the Evergreen Bluff series should be encountered at shallow depth and the Butler and Knowlton lodes can be reached, if desired, by short crosscuts to the northwest. It is proposed to sink the shaft to a depth of 600 feet as a three compartment working shaft. From the 600 foot level, a crosscut will be run southeast to cut the new lodes, the first one of which should be approximately 1,000 feet from the shaft at this level, the exact distance depending on the dip and strike of the lodes. In



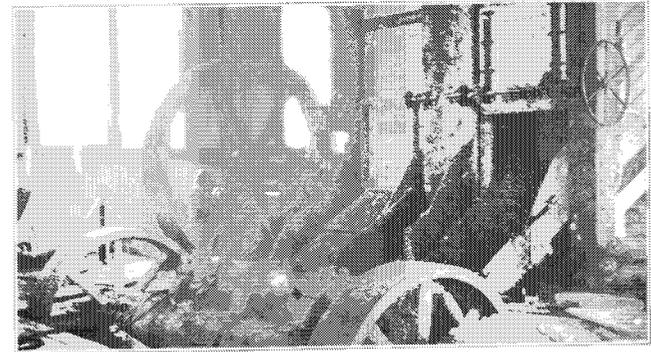
A. NORTH LAKE SHAFT, 1912.



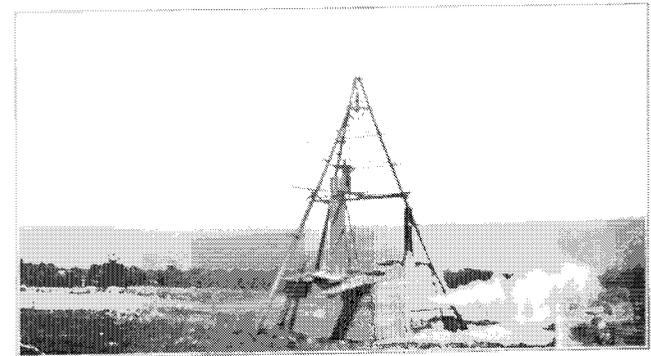
B. STARTING EXCAVATION AT SOUTH LAKE MINE.



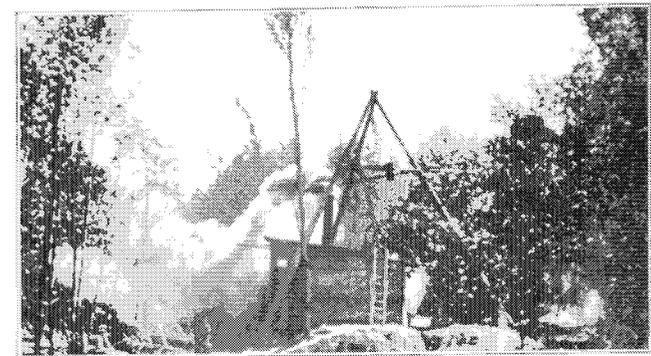
C. NO. 2 SHAFT IN LAKE LODGE SHOWS THREE COMPARTMENTS.



A. ORE BINS AND CRUSHERS, NO. 2 SHARP, LAKE MINE.



B. DIAMOND DRILLING ON MAYFLOWER PROPERTY.



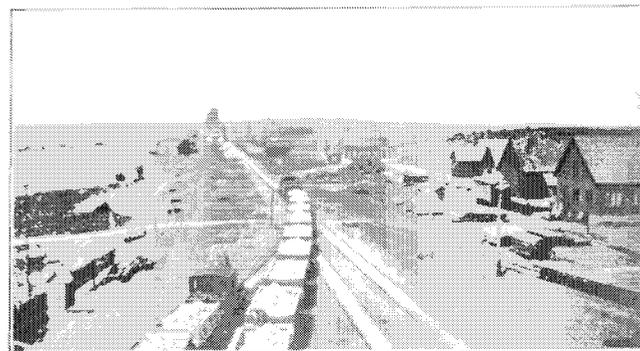
C. DIAMOND DRILLING ON OLD COLONY PROPERTY.



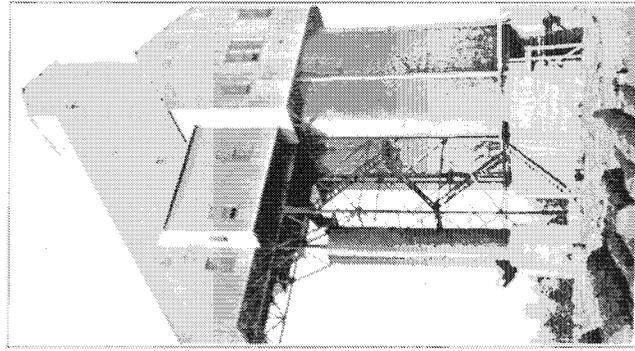
A. NO. 1 SHAFT OUTWAY MINE.



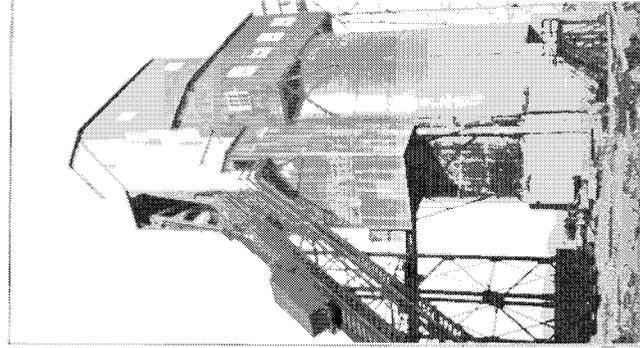
B. A VIEW OF PORCUPINE MTS. ONTONAGON COUNTY, FROM SHORE OF
LAKE SUPERIOR.



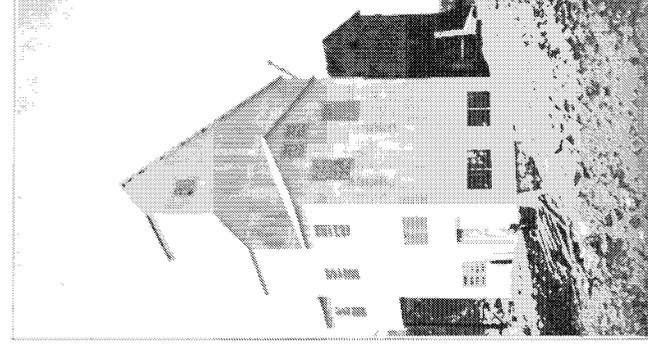
C. VIEW NORTH FROM NO. 2 SHAFT, ISLE ROYALE MINE.



A. ROCK HOUSE AT NO. 2 SHAFT,
LAKE MINE, ONTONAGON CO.



B. NEW ROCK HOUSE AND TEN
TON SKIP AT FRANKLIN JR.
MINE.



C. NEW AND OLD ROCK HOUSES
AT CUMMET, MASS MINE.