SURFACE PROSPECTING AT COBALT

The first discoveries at Cobalt were made by examining the rock outcrops. The ore, disintegrated for a few feet by weathering, was usually partly decomposed, the silver being tarnished and the arsenides oxidized. The oxidation of the cobalt minerals to pink erythrite, or cobalt bloom, furnished a remarkably good indicator. Thin films of bloom were commonly found when the rock near a vein was broken. The erythrite, however, does not retain its colour long when directly exposed to the weather, and is, therefore, of comparatively little value as an indicator until the rock is broken.

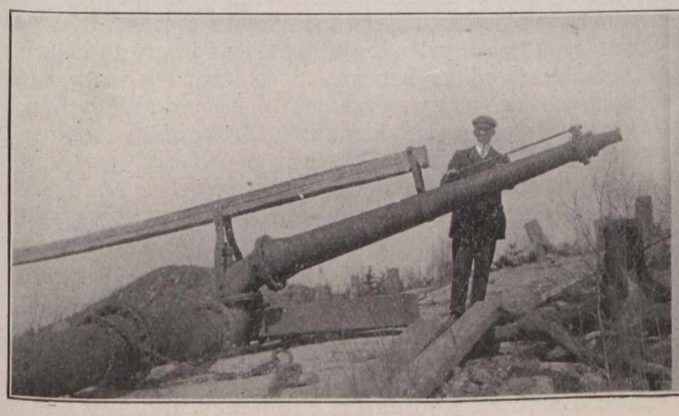
Cleaning Rock Surface, Nipissing Mine

The early prospecting consisted of examining all small crevices in the exposed rocks. The presence of ore was usually detected by the crevice yielding a soft black mud—cobalt oxide—containing nuggets of native silver, or by the brightly coloured arsenates of cobalt and nickel found a few inches below the surface.

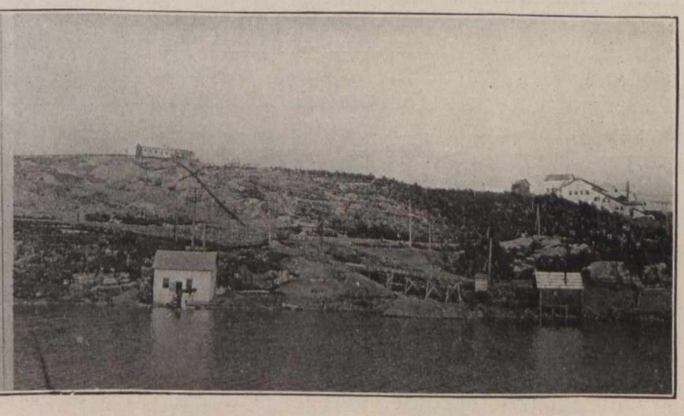
After the well-exposed rocks had been closely examined, the practice of digging trenches to bed rock was begun. Where not actually exposed, the rock is usually covered with only a few feet of glacial debris—sand, gravel and boulders. This practice proved successful and many veins were thus discovered. The first trenches were run irregularly and in the most easily prospected places. Later, in areas which proved productive, trenches and cross-trenches were run at short intervals—50 to 100 feet. The digging of the trench is followed by thorough cleaning of the bed rock. This is then carefully examined. Any crevices found are stripped for some distance and the rock is broken frequently along them. It is a common occurrence for such diligent following up of mere cracks to be rewarded by the discovery of narrow veins of rich ore.

Recognizing the advantage of having the overburden removed, the Nipissing Mining Company in 1906 pumped up water and washed the soil completely from a small area of the property near the shore of Peterson Lake. Later a pump of much larger capacity was installed, and in 1912 hydraulic prospecting began in earnest at the Nipissing.

At the shore of Cobalt Lake an electric-driven turbine is pumping water up Nipissing Hill to clean the rock surface. From the 3½-inch nozzle, 4,800 gallons of water per minute is directed against the glacial deb-



Giant Nozzle, Nipissing Mine



Pumping Plant and Pipe Line