

## **Tower Mine Pit Surface Tour Audio**

### **Chapter 3, Stop 2**

#### **2:56**

Many people think that the miners here used picks and shovels, since that is how many mines operated. This was not the case at Soudan, as the ore and surrounding jasper were too hard. In order to mine this area, miners needed to use drills to make a hole in the rock and then they blasted the area with explosives.

When the mine opened in 1882, the drilling was done by hand. Soon after opening, steam powered drills were used and eventually electric powered drills came on the site.

As you look at the pits, do you notice anything about the angle of the pit walls? They do not go straight up and down. They are actually at a 78-degree angle. Why is this? The first miners thought the ore lay on the surface, but the ore formation actually forms 7 fingers of ore that go deep into the Earth at a 78-degree angle.

The pits became dangerous as they dug deeper into the ground. If you look across the pit you will see the glacial debris that would occasionally fall in on the miners. These unsafe working conditions forced the mining company to go underground, where it would be safer. This worked to the advantage of the mining company, since the ore lay vertical and not horizontal. Underground mining would be the only sensible way to fully extract all the ore on this property.

Going underground also made it easier for the miners to remove the rock from the pits, because they would create drifts or tunnels from the new shaft into the pits. They could then haul the ore out these drifts as they were called. Prior to these drifts, miners hauled the ore out using rail cars. Some of the pits were sloped or tapered on one end, which allowed for a train car to be driven into the pit. One aspect to keep in mind regarding the mining process is the weight of the ore. How much do you think a cubic foot of ore weighs? A piece of ore about the size of your head would weigh approximately 325 lbs. This meant the miners wanted to handle the ore as little as possible.

When you finish the audio tour, make sure you hike the West Tower Mine Trail, which is located at the end of the parking lot, as it takes you past the West Tower Pit – one of the deepest pits on the property. It is a short, yet enjoyable hike and includes a small section of ADA accessible boardwalk. You will also want to hike to see the outcrop of Banded Iron Formation. It is a true beauty of nature. The hike is approximately 3/10<sup>th</sup> of a mile and is part of our hiking club trail. You will see the outcrop listed on the park map, which is available in the visitor center.

Once they began going underground, they needed a way to transport the ore and the miner. This was the job of the ore skip and man cage.