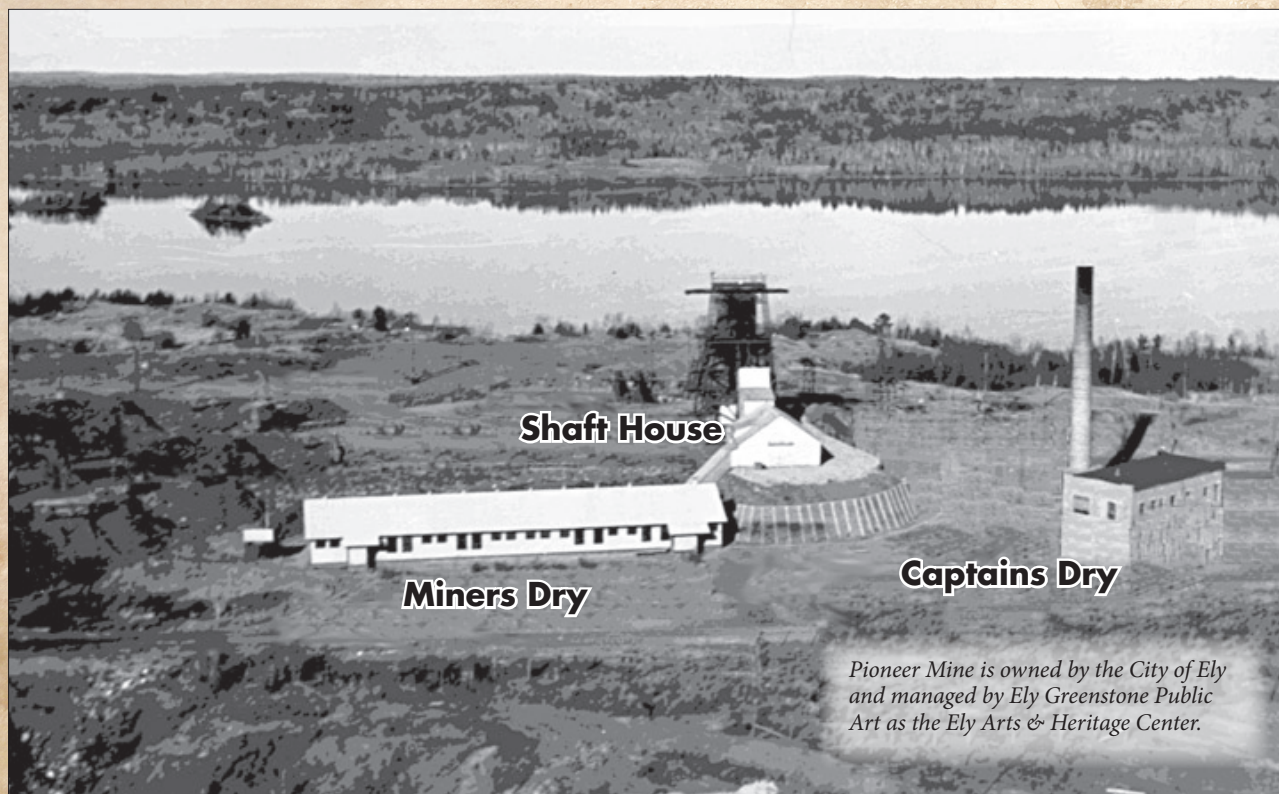


# PIONEER MINE

National Historic Register Site  
Ely, Minnesota



## Shaft House Open:

Memorial Day through Labor Day  
Tuesdays: 2-5 • Fridays: 3-6

**Ely Arts & Heritage Center**  
401 North Pioneer Road, Ely  
Across from Grand Ely Lodge

*Pioneer Mine is owned by the City of Ely  
and managed by Ely Greenstone Public  
Art as the Ely Arts & Heritage Center.*



## *Men Mined One Of The World's Oldest Ranges - Vermilion*

There is a mystery and charm about Minnesota's Vermilion Iron Range in the Ely district which enchants even the casual observer. One of the oldest ranges in the world, its iron-bearing rock dates back to the Keewatin period of the Archean age and therefore must be more than two billion years old; probably more than a billion years older than the taconite of the Mesabi Range.

The Pioneer Mine buildings and "A" headframe in Ely are the last such structures on the Vermilion Range with the exception of structures of the Soudan Iron Mine at the south end of the range.

Underground mining predominated on the Vermilion because the ore bodies are irregularly shaped. This mining was hard, dangerous work; there was always rock hanging over the miner's head. Below the surface, mules moved the ore cars in some mines; men moved the cars in others. Mining equipment first consisted of shovels, picks and wheelbarrows. Drilling blast holes was done by two-man teams - one man held and rotated the drill while the second swung a sledgehammer to drive it into the rock. Steam hoists lifted the ore to the surface.

As the Ely Times of January 10, 1896 reported: "Conditions were not exactly hell in the mines as has so often been said, but on at least one occasion, rumor had it that the devil himself was down in the Chandler! Captain Pengilly, prominent early mining captain at the Chandler Mine, was quick to squelch the rumor by telling the men that the devil was dead and that had he seen the gentleman down there, he

would have assigned him a number and put him to work!"

Martin Pattison is credited with discovery of the Pioneer In 1885. Though not the first mine brought into production in Ely, it was the first explored. Pioneer Iron Company opened the mine in 1889, shipping 3,000 tons of ore by rail to Two Harbors for shipment to eastern steel mills. However, by 1892 the Pioneer had produced only 20,886 tons. Difficulty in mining the property was not resolved until a four-compartment shaft 800 feet deep was completed in 1894. The Pioneer produced 500,000 tons in the next four years and the property was leased to Oliver Mining Company in 1898. By the 1930s, it was considered one of the largest underground mines in the world.



*Pioneer Mine B shaft*

The Pioneer produced ore from two shafts with depths to 1,700 feet. The B shaft was used to haul ore out of the mine via two skipways and provided a ladder road compartment used for emergency exit by ladder. The A shaft, where the remaining headframe stands, was the man shaft, where men and supplies went into the mine and waste rock came out. It was a four compartment shaft with two skipways, a compartment for the cage or "elevator" to lower men into the mine, and a ladder road.

The Pioneer began with "slice" mining;

cutting a circle and taking out ore "like a piece of pie." Operations changed to sub-level caving with the ore blasted loose from sides and ceiling of a compartment, then scraped to a chute leading down to track level where the ore was hauled to the surface by a skip. The idea was to always drop ore down, using gravity as much as possible.

The existing Pioneer headframe, built in 1943, replaced an earlier wooden structure. Typical of the headframes built for underground mining, it was constructed of riveted steel and equipped with pulleys which lifted skips of ore from the depths. In addition to the headframe, there are three buildings and a structure on the site. There is a metal water tower and a captain's dry house and smokestack (both dating from the turn of the century), miners' dry house, and a shaft house. The dry house was a place to change clothes.

The Pioneer was located in the iron formation such that it naturally received water from surrounding mines. When those mines closed, the water continued draining into the Pioneer. All the mines were connected underground; in the east side of the mine it was "raining" all the time and miners wore rubber suits. Near the end of mining operations at the Pioneer, it was necessary to pump about 2 million gallons of water a day from the mine.

When the Pioneer closed on April 1, 1967, having produced over 41 million long tons (2,240 lb.) of ore, there were still about 6 million tons of high quality ore in the ground, but the cost of extracting it was prohibitive. Miners Lake created by cave-ins between the A shaft headframe and the City of Ely is the graveyard of underground mining in Ely.