

# MESABI MILESTONES

## A chronology of historical events affecting the Mesabi Iron Range

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- 1500's—Iron oxide and fish oil were combined to make paint for native pictographs.
- 1842—Ojibwe ceded title to many mineral lands in Wisconsin, Minnesota, and Michigan
- 1843—Nicollet explores the region--uses Indian name Missabay or "Giant Hills", later changed to Mesabi.
- 1844—Douglas Houghton and surveyor William Burt notice compass deflection near Escanaba, MI. and discovers iron at Negaunee, Marquette range, MI.
- 1846—Marquette range (MI)—ships iron ore.
- 1847-1852—Land Survey of Minnesota Territories by US government.
- 1848—First "iron blooms" were hammered out in Escanaba MI.
- 1849—Minnesota Territory established.
- 1851—Dale Owen publishes "Geologic map of Wisconsin, Iowa, and Minnesota (for the U.S. Treasury Department)
- 1852—Gunflint range (MN-Ontario)—iron discovered by J.G. Norwood.
- 1855—St. Mary's canal opened at Sault Ste Marie, first steamer through locks. Allows shipping out of Lake Superior into the other Great Lakes.
- 1856—Henry Bessemer (London) developed a furnace that injects air and heats so hot as to remove silica and carbon impurities in iron ore. Makes first steel from pig or wrought iron.
- 1857—Depression ("a corner lot in Duluth is not worth a pair of boots!").
- 1858—Minnesota statehood.
- 1865—George Stuntz (government surveyor) discovered iron ore at Lake Vermilion.
- 1865—Henry H. Eames (State Geologist) canoed St Louis River and Embarrass Lake and reported "immense bodies of the ores of iron; and ascended the Prairie River reporting similar finds. In one year, he inadvertently defined the eastern and western ends of the Mesabi Iron Range.
- 1865—Lake Vermilion—Henry H. Eames and brother Robert collected iron ore and gold-quartz samples.
- 1866—Lake Vermilion—Governor Miller involved with Eames in gold claims, acquired "Indian script" lands, and scammed investors.
- 1870—Peter Mitchell, prospector, explored near Babbitt and sunk several test pits in hard magnetite iron-formation (later the Peter Mitchell Mine)
- 1872—Minnesota Geological and Natural History Survey established
- 1872—N.H. Winchell, as director, published "Preliminary Geologic Map of Minnesota"
- 1873—Depression.
- 1875—Professor A.H. Chester surveyed and analyzed Mesabi iron-formation.
- 1877—Menominee range (MI) shipped iron ore.
- 1882—Vermilion range (MN)—iron mining began (involving Stuntz, Stone, and Tower).
- 1882—Colby Mine opened—the first on Gogebic range (MI).
- 1881-82—Alexander McDougall patents steel lake freighter known as the "Whaleback"
- 1884—Gogebic range (WI)—shipped first iron ore.
- 1884—Vermilion—railroad completed (by Charlemain Tower) from Two Harbors (Agate Bay) to Tower (later connected from Two Harbors to Duluth).
- 1884—Vermilion range—first iron ore shipped (Breitung mine, near Soudan).  
1885 Soudan Mine opened.  
1888 Chandler and South Chandler mines at Ely opened.  
1889 Savoy and Pioneer Mines near Ely opened.
- 1884—Newton Winchell (geologist-Minnesota Geological and Natural History Survey) traveled to New Orleans World's Fair with a large exhibit of Minnesota rocks and minerals including catlinite, building stones, hematite (natural iron ore), and sodium chloride (salt extracted from well at Humboldt in Kittson County).
- 1887—Law passed by Minnesota Legislature requiring "the state geologist to make special examinations for the discovery of any economic product which he might have reason to believe existed at any place in the rocks of the state and report thereon for the information of the citizens of the state."
- 1888— Gunflint Iron Range; Paulsen Mine opens; 1 car-load of ore shipped; closed in 1893

1890—Edmund J. Longyear sank the first diamond drill hole (near Hoyt Lakes, Mesabi range, MN).

1890—Merritt brothers discover iron ore near Mountain Iron

1891-1892—John McCaskill noticed soft ore clinging to tree roots near present Biwabik and sank 65 test pits, all assayed at greater than 65% iron.

1892—Mesabi range—first iron ore shipment (Merritt brothers) from Mountain Iron. Shipped down lakes on Alexander McDougall's whaleback freighter #102.

1892—Frank Hibbing discovered iron ore west of Virginia.

1893—David Adams published first geologic map of Mesabi range based on field observations.

1893—Depression—many unemployed as iron drops from \$2.46 to \$1.55/ton. “Big money” bail-outs from names like John D. Rockefeller and Andrew Carnegie.

1900—N.H. Winchell, published Geologic Map of Minnesota, assigns iron-formation Taconic for Cambrian formations in the Taconic Mountains in northern New England (“taconyte”); The Taconic system contained primitive fossil forms that predated those found in the Cambrian System. He then resigns MGNHS

1901—Van Hise and Leith (USGS) named the iron-bearing formations on the Mesabi range "Biwabik" Iron Formation (Biwbik is a Chippewa Indian word for “piece of iron”).

1901—J.P. Morgan formed US Steel Corporation, merging the holdings of Henry Oliver, John Rockefeller and Andrew Carnegie.

1904—Cuyler Adams (with his dog "Una") test drilled iron ore near Deerwood in east-central MN, in what became known as the Cuyuna range.

1907—Labor strike on the Mesabi range for 8 hour days and wages from \$1.50 to \$2.00/day.

1907-08—Depression—many mines closed forever.

1911—Cuyuna range—shipped iron ore from the Kennedy Mine near Rabbit Lake.

1911—C.K. Leith publishes map of Mesabi Range in USGS Monograph with Van Hise on the Geology of the Lake Superior region

1917—U.S. entered WW I.

1922-24—Experimental taconite plant operated.

1929—Stock market crashed and economic depression began.

1932—Frank Grout (MGS) and others published “Geologic Map of the state of Minnesota,”

1941—U.S. entered WW II, following attack on Pearl Harbor.

1953—Largest annual iron ore shipment from Mesabi range of 75,953,215 tons (~76 million tons).

1953—Mesabi range—taconite process developed by Davis, and a pilot plant began at Mountain Iron.

1955—Taconite mining and production successfully begun by Erie Mining and Reserve Mining.

1962—Vermilion range—Soudan Mine closed.

1963—Soudan Mine opens as a state park

1964—Taconite Amendment calls for no tax increases for 10 years, and the mining picture improves.

1967—Vermilion range—Pioneer Mine (Ely trough) ceases operation, the last of that range.

1969—Mine Land Reclamation Law passed by state legislature.

1973— Minnesota Discovery Center (Ironworld) opened in Chisholm, near abandoned Glen Mine.

1978—Cuyuna range—last mines closed. The Algoma and Zeno Mines continued shipping from stockpiles through 1984.

1988—Hill Annex Mine (Mesabi) begins operating as a MN State Park.

1992—U.S. Bureau of Mines experiments with extraction of manganese from Algoma and Zeno ores on the Cuyuna range.

1994—Cuyuna Country Recreation Area created by state legislature—charter leaves open the possibility of future mining.

2005—Discovery by Addison and others of ejecta blanket from 1850 Ma Sudbury meteorite impact in capping iron-formations on the Gunflint and Mesabi Iron Ranges

2005—MGS publishes Bedrock and Quaternary Geologic Maps of Mesabi Iron Range (M-163, 164).

**2013 UPDATE for Mesabi and other iron ranges**

- Mesabi Iron Range—Mining a full capacity in 6 mines; plus iron extraction from old tailings
- Gogebic Iron Range—under consideration for new mining (the first there since 1967)
- Cuyuna Iron Range—in-situ mining of manganese in test phase (the first there since 1984)