

Part 1

It was 1956 when the Reserve Mining Company began dumping taconite tailings into Lake Superior. The tailings were the left-overs from the company's production of taconite pellets. The tailings were a thick slurry of waste rock mixed with water and it was estimated the company was dumping over 60,000 tons into the lake each day. It was the equivalent of a railroad car every two minutes.

The dumping of the taconite tailings was legal – the company had a permit from the United States Army Corps of Engineers and the State of Minnesota. But it was the 1950s when the dumping began and there were few, if any, environmental concerns or complaints. And there were no initial major worries about the dumping – in theory, the material being dumped was just residue from the mining of the Iron Range.

The daily discharge of over 60,000 tons of tailings went on for 25 years along the shoreline at Silver Bay. It was estimated that over those 25 years nearly 600 million tons were dumped into Lake Superior. The tailings entered the lake via two large chutes, which had to be periodically moved farther out into the lake, creating a man-made delta. Mining engineers thought that any residue from the tailings would sink to the bottom and have no negative effects on the lake's ecology.

The Reserve Mining's actual taconite mining operation was located in Babbitt. But taconite is a low grade iron ore...and creating the high grade – and - marketable taconite pellets took decades of research and experimentation. The production of taconite pellets required large amounts of water and for every ton of pellets the company produced, there were two tons of waste rock that had to be dumped.....somewhere. Reserve Mining needed an economical way to handle both their water needs and the disposal of a large amount of tailings. The company decided the best fit would be a location along the shore of Lake Superior, and Silver Bay became the first taconite processing facility in North America.

The company designed and built the infrastructure to deal with the taconite processing – this included the creation of an entire new town – they named it Silver Bay - along with construction of an ore dock, a harbor and a power plant. To move the raw iron ore product from the mine in Babbitt to the processing plant in Silver Bay, a 47-mile railroad line was also built.

An article in the Duluth News-Tribune from 1947 described the plan: “Old-time settlers – and some not so old – envision a growth of the community which will quickly eclipse the bustling sawmill days which are now mere memories of many years ago.” But in an interview with the oldest resident of the area, the 89-year-old woman commented, “I’m content with the way things as they are.” But she was in the minority. Most area people seemed to agree with a young Beaver Bay businessman who stated he saw “a future that will benefit the entire North Shore in the field of commerce.”

One newspaper headline read “Nameless North Shore 'Ghost Town' Becoming a Wilderness Metropolis.” It was predicted that the newly named community of Silver Bay would have a population of 5,000 within a year, making it the largest community along the North Shore. The site of the actual mine, Babbitt, had also been reinvigorated. An article in the Minneapolis Star Tribune gave a glowing report of the two towns, stating “Babbitt and Silver Bay have no slums, no unemployment, no major crime, no traffic problems or jails, no orphans and no need for homes for the aged.” It was reported that in the year 1958 alone, 248 babies were born in Silver Bay.

The very first load of taconite ore arrived in Silver Bay in the summer of 1955. It came from the Babbitt mine, traveling 47 miles by train. And it was the following year, 1956, when the first load of taconite pellets left the Silver Bay harbor. The taconite industry employed a combined 2,500 workers at Babbitt and Silver Bay.

Most Silver Bay area residents were happy about both the plant and the new town. There were only a few voices that questioned the permit to dump over 60,000 tons of waste rock daily into Lake Superior. But initial permits had been granted in 1947 and then renewed by the newly formed Minnesota Water Pollution Control Commission. However, the permits did state, rather vaguely, that Reserve Mining *would be at risk for shutdown or change in permits based on changing definitions of pollution.*

In today's world, it may have been a surprising decision to dump taconite tailings into Lake Superior. The usual practice was to utilize tailings ponds, usually in locations that were lightly populated, inland from Lake Superior, and accessible by rail. But in the 1950s the North Shore of Lake Superior was still considered a remote area and the newly created town of Silver Bay was not close to any major population centers.

But once the dumping of the taconite tailings began, local residents started noticing changes in the lake. The water near the shore was described as grayish-green and cloudy. A fisherman near Silver Bay saw a decline in the amount of herring caught, and the bottom of the lake was developing a layer of mud, or “goo” as he called it.

The head of public relations at Minnesota Pollution Control stated “if the sun was right, you could actually see the tailings moving southwest toward Duluth. It looked like a green slime.”

As Grant Merritt recalls in his book, *Iron and Water*, “on many days it was easy to see the green water all along the shore toward Two Harbors as well as out in the open water of the lake toward Wisconsin.” Officials at state agencies dismissed these observations, and a spokesman for Reserve Mining called the green water both an “illusion” and “a natural phenomenon.”

An employee of Reserve Mining's Environmental Lab said their daily monitoring of the water “didn't seem to show any harm to the lake.”

But by the mid 1960s there were growing environmental concerns.

Part 2

Beginning in 1956, the Reserve Mining Company dumped its waste rock - known as tailings – directly into Lake Superior. The newly-created town of Silver Bay was the site of its taconite processing plant, creating taconite pellets from low grade iron ore. But for every ton of pellets produced, two tons of tailings were funneled directly into Lake Superior at the rate of over 60,000 tons per day, or an estimated 45 tons per minute.

Aerial photos of Lake Superior showed the shadow of tailings reaching past Duluth and traveling along the northern Wisconsin shoreline. Local residents had noticed a change in water clarity and a decline in fish populations.

In 1965 Reserve Mining set a record for tons of taconite pellets shipped out of Silver Bay. And the first vessel of the 1966 season – the Edmund Fitzgerald – also set a record for the largest cargo shipped from Silver Bay.

But as early as 1963, Wisconsin Senator Gaylord Nelson suggested possible legal action against Reserve Mining due to the noticeable drift of tailings into Wisconsin waters. However, Reserve Mining's permit to dump their tailings had been renewed by the Minnesota Water Pollution Control Commission.

A 1968 investigation and report by the Department of the Interior looked closely at the water around Silver Bay. At this point, the discharge of tailings had been going on for nearly 13 years. Scuba divers found that clouds of suspended waste rock became what they called a “green fog” as it traveled southwest along the shore. Water clarity was only five feet in this green-tinted water compared to a normal clarity of 35-40 feet. This change in water clarity seemed to be disrupting fish habitat, as noticed by area commercial fishermen, and had uncertain – but worrisome – effects on the health of the lake.

The Minneapolis Tribune reported the findings with the headline “U.S. Study Finds Taconite Pollutes Superior.” But the findings were quickly labeled “unauthorized and unofficial.” One Minnesota state senator [Raymond Higgins] stated the report made “unfounded allegations” about “one of the state's finest corporate citizens.” Reserve Mining itself issued the statement “thousands of jobs, two communities, and a major business enterprise have been placed in jeopardy by this erroneous paper.”

However, that was just the beginning of studies on the effects of the daily discharge of taconite tailings...and by 1971, it was recommended that Reserve Mining find somewhere else to dump their waste rock – somewhere away from Lake Superior.

It was less than one year later, in 1972, when the Department of Justice filed a lawsuit at the request of the newly formed Environmental Protection Agency. It was called the United States of America vs. Reserve Mining Company.

But before the trial got underway, an EPA scientist discovered the presence of asbestos-like fibers in the lake. These fibers were showing up in the drinking water for Duluth and other communities along the North Shore. They were considered a possible cancer threat, and the source of the fibers were the taconite tailings being dumped at Silver Bay.

The trial of the United States of America vs. Reserve Mining began in 1973. The judge was Miles Lord. He'd grown up on the Iron Range and had family roots in the mining industry. Joining the lawsuit were three states and several environmental groups. The case attracted national attention, and created a deep divide among North Shore residents.

But what was the answer to disposing of over 60,000 tons per day of taconite tailings? An alternative to dumping the tailings into Lake Superior was to create an inland dumping site.

Eight months into the trial, Judge Miles Lord asked the chairman of Reserve Mining if the company could agree to a settlement – that settlement would be based on whether Reserve could stop dumping their tailings into Lake Superior and instead find a site inland. The answer from the Reserve Mining Chairman was “we don't have to, we won't.”

Reserve Mining stated during the trial that the company had **never considered** any alternative to dumping their waste rock into Lake Superior. But a subpoena of Reserve Mining documents revealed that the company had indeed done extensive planning for an on-land disposal site.

Fed up with what he considered Reserve Mining's lack of truthfulness, Judge Lord then ordered the company to stop dumping its waste into Lake Superior, effective immediately. However, that order was short-lived, and a federal court allowed Reserve to continue operation but with the understanding that they needed to find an alternative site to dispose of their tailings.

The trial lasted for over a year. Ultimately, the misrepresentation by Reserve Mining plus the possible cancer risk of the asbestos-like fibers in drinking water impacted the final ruling. The court concluded

that Reserve Mining Company violated environmental laws by discharging its waste rock tailings into Lake Superior. Various appeals lasted another six years.

In 1980 Reserve Mining began depositing its tailings at an inland site close to Lake Superior. Sites that were closer to the Range that had fewer environmental issues and lower risks were studied but never considered by Reserve because of higher transportation costs.

So where did the tailings end up? Since 1980 they've been accumulating behind a series of dams three miles northwest of Silver Bay, near Lax Lake. The basins – as they are called – are in a location known as Mile Post 7. Aerial photos show large murky white bodies of water 600 feet above Lake Superior. The basins total over 2100 acres in size – which is comparable in surface area to Cook County's Devil Track lake. A series of dams retain the basins of waste rock and water. However, the dams are assessed as Class 1 or “high hazard” dams according to the Minnesota DNR which means: *A dam failure would result in possible loss of life or serious hazard, impacting the Beaver River watershed and the community of Beaver Bay.* An Environmental Impact Statement from 1976 commented on the questionable design of the Mile Post 7 dams. It concluded that a “1,000-foot breach in the south dam would produce a 28 foot high wall of water moving down the Beaver River valley at more than 20 miles per hour to Lake Superior.” The statement concluded that the “threat to Lake Superior would not end when [mining] operations cease, but would persist indefinitely.”

Reserve Mining filed bankruptcy in 1986 and sold the company due to declining profits most likely caused by a decline in low-grade iron ore reserves and iron ore prices, along with increasing global competition. The taconite mining and processing operation is now owned by NorthShore Mining.

It has not been determined if the asbestos-like fibers found in area waters would cause cancer. Ultimately, the decision to force Reserve Mining to stop dumping taconite tailings into Lake Superior gave the Environmental Protection Agency the legal power to regulate pollution coming from industrial sources.

Carl D'Aquila, a politically active Iron Range resident, knew the head of Reserve Mining and felt the company hadn't moved quickly enough to create an inland site for its tailings. He wrote “when you're dumping 68,000 tons a day of anything into the lake, it's obvious that even if it's pure cane sugar, or milk, or anything we think is pure, it still boggles the mind. People just wouldn't accept it.”

Sources

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