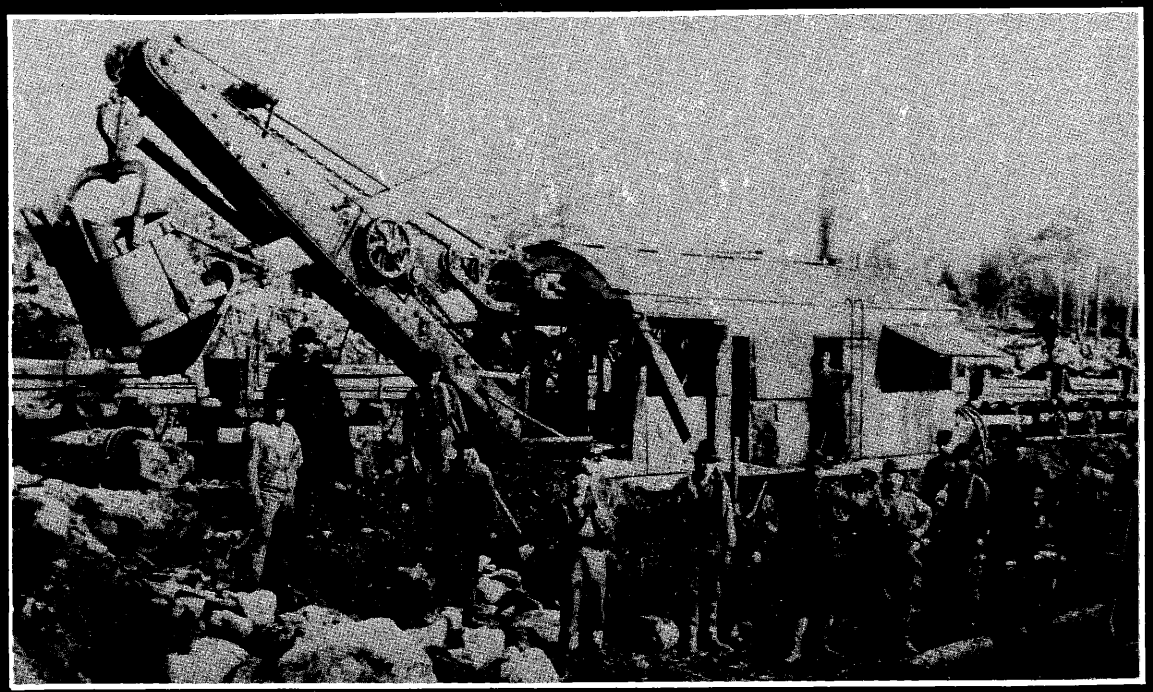

IRON RANGE COUNTRY

A Historical Travelogue of Minnesota's Iron Ranges

Iron Range Country

A Historical Travelogue of Minnesota's Iron Ranges

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Signe Aho came to northern Minnesota from her native Finland in 1913. She and her husband carved a life for themselves and their children out of "Kivi Kontri," this uncompromising land of rocks and swamps. To me she symbolizes the vital but largely unreported role which women have played in the growth of Minnesota. I have sat at her kitchen table while, gnarled hands at rest, she told her stories of hardship and happiness. Listening, I have wondered whether the dignity and flair Signe still possesses might not have been crushed out of us "moderns", had we had to shoulder the burdens she carried. Signe Aho, along with thousands of other immigrant women, brought the settling, comforting, "steadying hand of permanence" to northern Minnesota. For that, and to her, this book is dedicated.

Fred Thompson
Production Director

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Welcome to Iron Range Country

From revegetating pitwalls at the old Section 30 Mine in Lake County to industrial remains at the Croft Mine near Crosby, change has been at work in Iron Range Country. Man-made mountains and canyons, crumbling ruins and rusty headframes are terse reminders of an earlier time, a time when mining was still an art and a multitude of tongues were heard on the boardwalks of frontier towns. From the red dust arose the rich and powerful of America's industrial past — Charlemagne Tower, Henry Oliver, Samuel Mather, John D. Rockefeller, Fredrick Gates, Henry Frick, Andrew Carnegie and others.

More earth has changed position on the Mesabi Range than in any other iron mining districts within the boundaries of the United States. But physical change is only one aspect of Iron Range Country; the district took in a population movement from Europe so vast that in spite of organized assimilation efforts, European ways are still seen on the streets of its towns.

And yet, on back roads near shorelines of lakes and streams, ancient earthen mounds, piles of heaped stones, and quiet pathways tell a history more remote. There were other people, other ways.

The story of Iron Range Country is an epic portraying the passing of an almost forgotten culture, the struggle of kings and companies to control a lively trade in furs, the founding of camps and settlements in a wilderness and the lusty brawling life of old Range towns. Such a story must trace the rise and fall of empires in steel and rail and fortunes made and lost — sometimes overnight. Interwoven through all this is the saga of the immigrants with all their hopes, sorrows, joys, misgivings and raw courage.

Adventure and discovery abound in this vast outdoor museum of industrial archaeology, history, geology, natural history and beauty. This guide is prepared, not as a definitive history of the area, but rather as a door to the exploration of a unique part of America.

The authors, after having sifted through enormous quantities of pictures, taped interviews, books and research in the course of this project, proffer to the reader a canny observation from Indiana's William Tecumseh Sherman:
"We all know that no three honest witnesses of a brawl can agree on all the details. How much more likely will be the difference in a great battle covering a vast space of broken ground . . .?"

Marvin G. Lamppa, Director
Iron Range Interpretative Program
Eveleth, Minnesota

September 1, 1979

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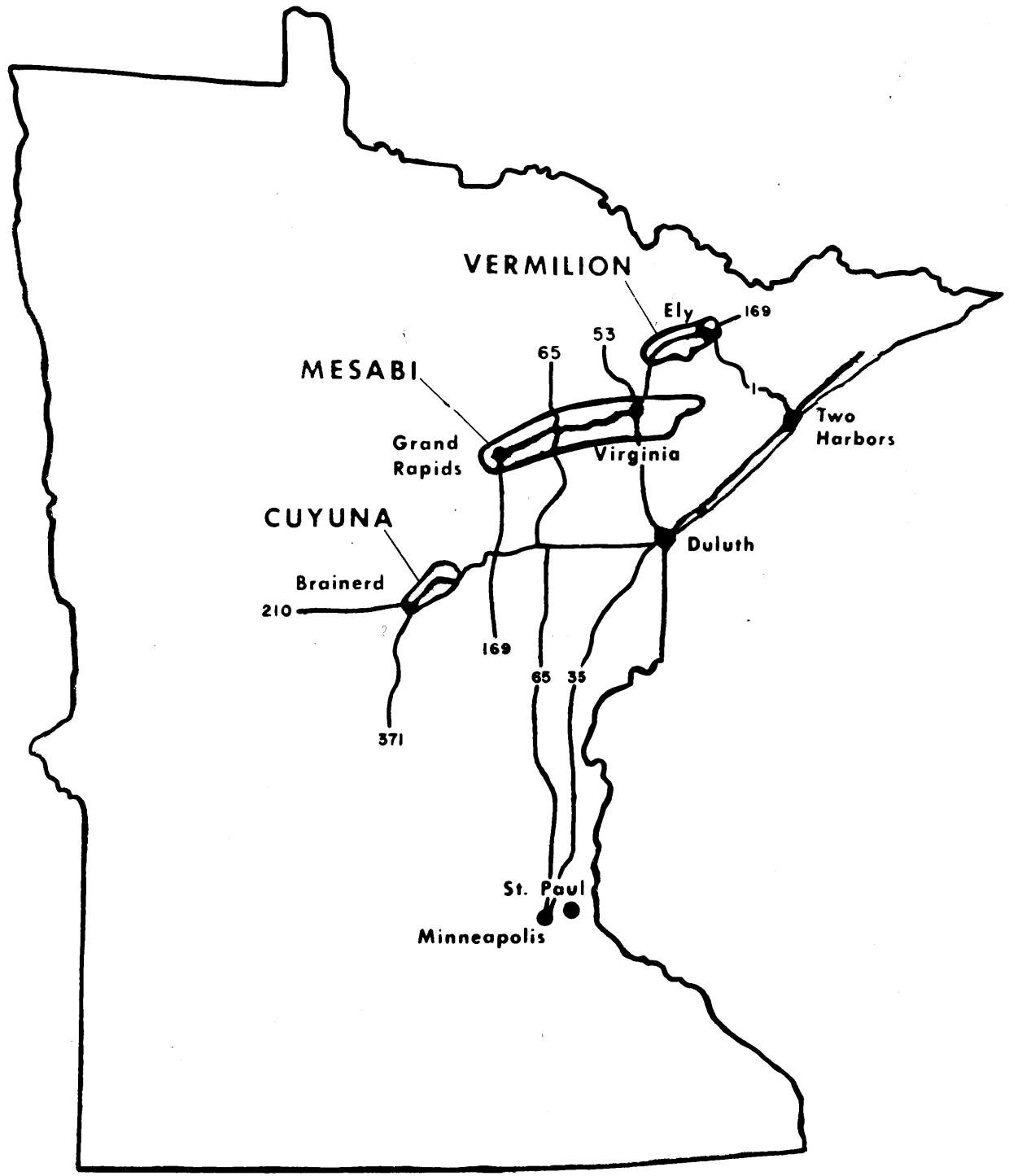
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Introduction to the guide:

Great glaciers moved over the Laurentian Mountains, gouging here, there building, changing irrevocably the face of northeastern Minnesota.

Came, then, a procession of men. Prehistoric Copper Culture people heated rocks with fire, and then doused the rocks with water to open fissures from which they extracted pure copper for fashioning tools. These were the first of the miners. But they disturbed the land very little.

There were those, too, who left pottery sherds, rock paintings, burial mounds: the Woodland Indians. They moved earth in small ways to designate the resting places of their dead.

When Rome was only establishing itself on the banks of the Tiber, settlements had already been created on the shore of Nett Lake. And it is well documented that the Northwest Company of fur trade fame had posts on Lake Vermilion, at Grand Rapids, and other places in the area at about the same time the United States was being formed.

But none of these peoples had the impact that modern man, in only the last 100 years, has precipitated upon the face of the earth and in its heart.

With packs, compasses, picks and shovels, these people walked in, rode on horseback, came later by wagon, then by train and truck. As inexorably as the glaciers, they set about tunneling, gouging, heaping. They were the Earth Movers, and this is the story of their dreams.

The Earth Movers dreamt of challenge and wealth, or of security, of tightly-knit families, and opportunity for education for those families.

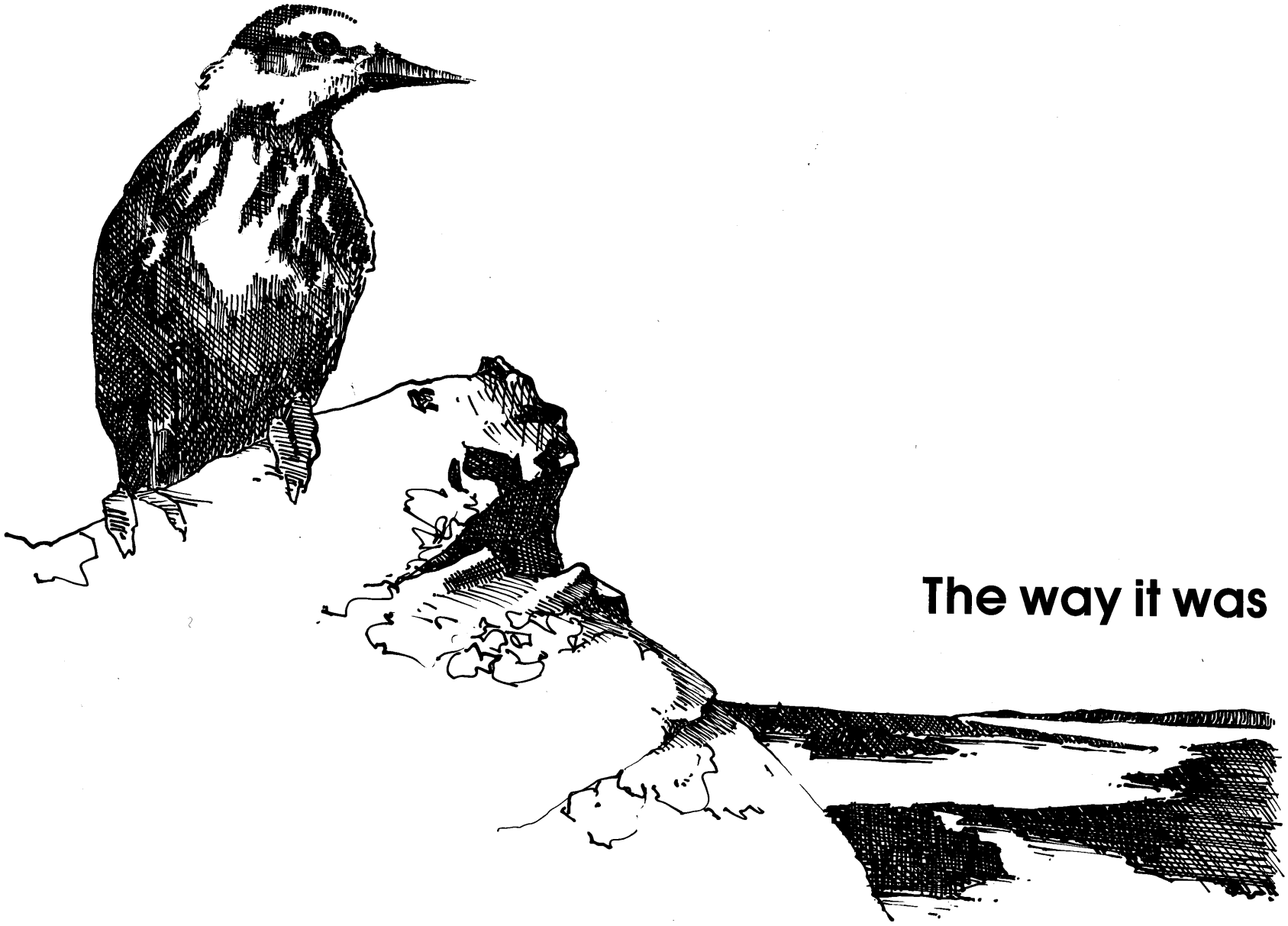
Remains of some of their early efforts lie partially buried or hidden in thickets, just as do mysterious mounds, ancient trails, prehistoric habitation sites and artifacts from the Copper or Woodland civilizations. Of the Earth Movers one can find: brick and cement mine stacks, headframes, drill sites, rusty, twisted scrap iron sticking out of engine house foundations. Left behind, too, are remains of the great sawmills, forgotten railroad beds, ghost towns, stone piles in a cleared field, decaying log houses with a porcelain tea kettle or a broken cup and saucer inside. The whole area is an "industrial archaeologist's delight"! And from such findings, we can make statements about the daily lives of the men and women who toiled through that era. But wait! —

Many of these people are alive and still very much active in the bustling, modern communities they helped establish. And that is the exciting part of peering at this civilization; we are still busy building it!

And if you live in Austin, Texas, or Fairfield, California, or Chisholm, Minnesota, you travelled here in a fashionable conveyance molded from the very earth of these iron ranges.

The story of our Iron Range Country and the surrounding regions has never fully been told. Few people in our nation and state are aware of the significance of the area, and of the many historical and cultural themes underlying the old structures, mines, abandoned townsites and decaying farmsteads that are so familiar to area residents.

And so we begin that story . . . but only just barely "scratch the surface" on these pages . . .



The way it was

High up in the North in the land called Svithjod, there stands a rock. It is a hundred miles high and a hundred miles wide. Once every thousand years a little bird comes to this rock to sharpen its beak. When the rock has thus been worn away, then a single day of eternity will have gone by.

A beautiful analogy—Hendrick Van Loon's, in his **The Story of Mankind** —it gives one a feeling for the aeons of time which passed, unrecorded by human beings, during which pressures within the earth and without worked to change the very composition of the planet.

During its first billion years, Earth was condensing from a gaseous mass. Then slowly the crust began to solidify.

And among the oldest rock formations to solidify from lava outpourings were the Ely greenstones of northeastern Minnesota, imbedded with iron.

Iron is by no means rare; in fact it occurs in nearly all kinds of rock and mineral deposits. Yet in northern Minnesota are found formations containing incredible amounts of iron in a small area.

What precipitated the iron ore deposits found here in such large concentrations?

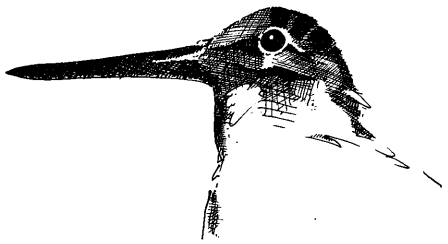
An ancient sea, covering a territory from the Arctic to Minnesota and Wisconsin, deposited sediments of iron and silica which had been in solution in the waters. Then this vast sea retreated, and there followed timeless periods of erosion. Cyclopean outpourings of lava cooled and tilted into great ridges. Now water flowed again, first dripping, then trickling, then pouring through cracks and fissures in the earth's surface, to leach out silica and leave the high concentrations of iron oxides that are the ores of today.

But this iron ore would lie buried by the glacial till of four glacial periods.

A million years ago, our countryside probably looked much like the Tennessee and Kentucky hills, with numerous streams and tributaries but few lakes.

Then, gradually the snows came earlier and stayed later each year, until there was snow year 'round. It piled up, the underlying snowflakes consolidating under pressure and becoming compacted ice. When the whole mass reached a critical thickness—probably over 100 feet—pressure from above forced the underlying ice to become plastic and move away from the center of pressure.

The moving glaciers plowed up forests, rock outcroppings, hillsides and, embedded in the underneath of the glacier, such debris grooved and gouged bare rocks as the ice inched forward. The debris was finally deposited along the path of the melting ice cake as the climate again warmed. Blocks of ice broke off and were buried under the debris, thawing to leave depressions which filled with water and became kettle lakes. Lakes also formed where



debris was deposited across stream beds, or where glacial action had dug pockets in the bedrock of the region.

As the ice melted, and the earth warmed, vegetation grew anew.

A woodcock called its nasal "peent, peent" from a leafy thicket, and in the northern Minnesota dusk,

a white-footed deermouse scurried among the leaves and stones, scrutinizing an occasional fallen log or rock crevass, searching for seeds, grain, a small nut.

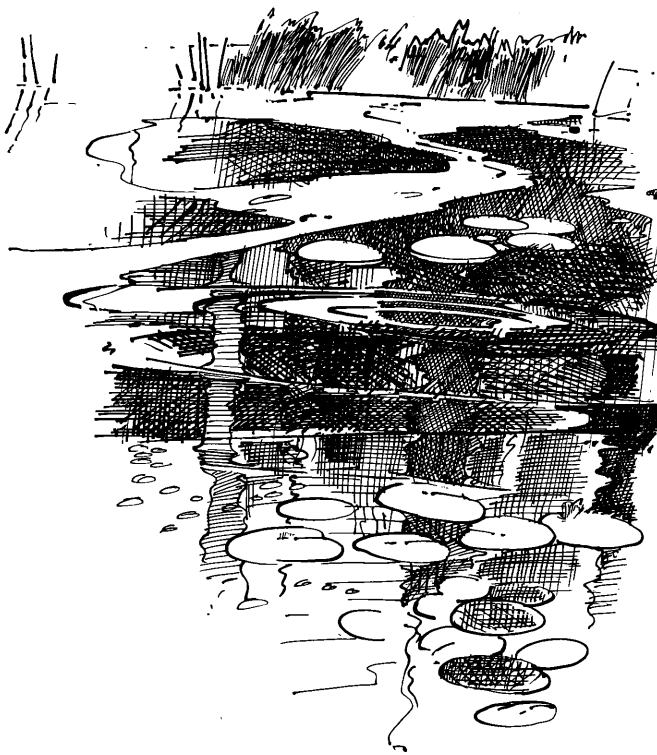
Animal trails wound through this thicket, ending at the bottom of a slope of hill where a beaver dam had raised the water level from the creek-bed, spreading it out into a marshy pond. Dead trees stood in the water, their bark hanging off in great sections, their dry limbs pointing at awkward angles toward the sky.

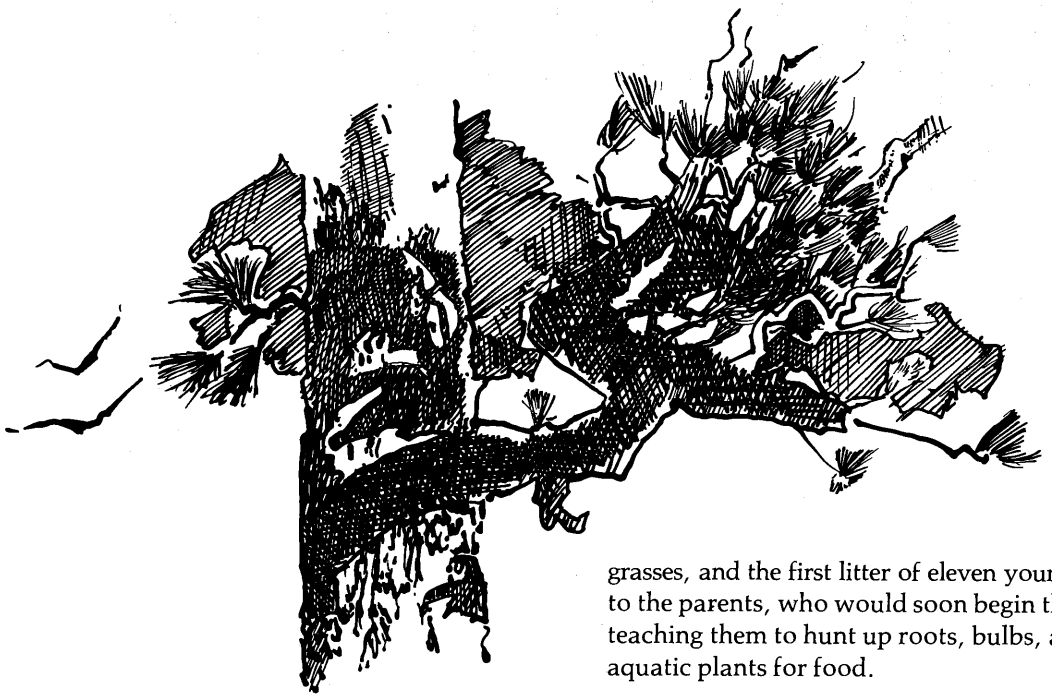
The water rippled now as a muskrat, his dark pelage the color of the leaden evening surface of the water, swam across the pond toward his house of rushes and water plants. A pile of empty fresh-water mussel shells on the muddy bank was all that remained of the animal's meal.

Materializing silently at the water's edge, a red fox alternately lapped water and raised his head to look intently around him and across the pond. The deermouse, unaware of the fox's presence, busied itself in the brush, and crackled a dry leaf as it moved about. Instantly the fox's head swung around, and a blue jay perched in a snag flapped off screaming his high, piercing "jeeah, jeeah!" But the mouse had popped down into a rock crevass before the fox could turn in pursuit.

At the water's edge, marsh marigolds grew in clumps. Ground pine greened up the otherwise brown and tan slope from the pond. Fiddlehead ferns were emerging from the forest soil here and there, unfurling soft, furry fronds. And the new needle growth of the deciduous tamaracks gave a lime-green haze to the air.

On higher ground, pure stands of tall white pine grew, surrounding this marshy thicket like sentinels.





The pines were beginning to "candle"—to send out new buds couched in the tip of each branch. These buds would elongate and then fluff out into the tree's new clusters of needles.

A chill spring wind rose, disturbing the needles of the pines with a slurring sibilance. It was almost always there, this gentle roar far up in the trees. But there was no man sound.

The mouse made her nest of twigs and leaves in the safety of the rock crevass, and bore her litter of tiny naked babies. The male woodcock's mate laid speckled, buff-colored eggs on the ground, and sat, tucked and still and unblinking upon the clutch, perfectly hidden in the brush.

The muskrat fashioned its summer quarters of grasses, and the first litter of eleven young was born to the parents, who would soon begin the task of teaching them to hunt up roots, bulbs, and other aquatic plants for food.

The yellow flowers of the marsh marigolds had now bloomed and gone. Frost had touched the ferns. The wind still shushed through the pines. And now, if any of the animals were to look up toward the tamaracks with man's eyes, they would see a change: the needles were turning from their summer green to the tawny old-gold of autumn. But these animals and birds all had other ways of noting the change in the seasons. The fox lifted his nose and tested the air; the mouse instinctively began to store away more food in burrows underground. The pelage of the muskrats thickened to prepare them for the ice and supercooled water of the winter pond.

And then the snows came. And with the deepest drifts came a lynx, with its tufted ears and big feet. Padding along on the crust of the snow, he entered the thicket from the deep pine woods, looking for food. His eyes and ears were finely tuned to scents and sights and sounds, and thus, he learned of the presence of the fox, and of the mouse. But there was no man scent. The lynx stood, not a muscle twitching, waiting and watching.

In this bog and marsh country of northern Minnesota, moving about in their own territories, and in their own time, searching for food, mating, and sleeping, were bears, wolves, moose, fishers and martens. The seasons came and went. The ground pine on the slopes and under the tallest trees were now covered completely in snow; now the only green showing through the grey, blotchy snow mounds of early spring; and now, swallowed up by the lush foliage of mid-summer. And still no man trampled them.

Prehistoric pictographs or rock paintings found on cliff walls. It is theorized that prehistoric artists used a mixture of iron oxide and fish oil for their paints.

Prehistoric and Indian peoples of northeastern Minnesota

The Creator, **Winibozho,** who was very smart and lived in the wilderness like a person, was caught in a great flood.

But he had a little float, a raft, and was going around on that. And it happened that as he drifted along, **Winnibozho** thought to himself:

"There are animals that live off in the waters. There are fish and game that live there. First of all I must call some of these animals. Maybe they could help me. I want to make land again so we can live and float on it." He called a meeting, and all the animals in the water went to the meeting.

Two, three animals came to try to help **Winibozho** make land. About the third or fourth one that came was a muskrat.

"I hear you're having a meeting."

"Yeah."

"What is it that you want?"

"I want land, soil."

"What are you going to do with soil?"

"Make land for peace for all. We need land to live on. We gotta have land and soil so we can live. We need land for the people to live on. Could you help me?"

"I think I could. I could show you land."

Down went the mushrat. He wasn't gone very long. He went to the depth of the sea, grabbed a handful of dirt and came up.

"There's land right here." He held out his hand and showed **Winibozho** the dirt . . . *"Pfffffff."* He blew the soil, the land and it filled up his little hand, it covered his hand. He blew again, *"Pfffffff . . ."*

Winibozho blew it, *"Pfffffff, Pfffffff,"* and just that quick the land came big. Every time he blew with power, magic, the land became bigger . . . All at once vegetation started growing. The sun dried the soil up, and vegetation started growing in the soil.

It grew big, big, big. . .

Winibozho then told the mushrat, *"There's supposed to be some metal holding this land up. Some mineral, metal, should be holding the earth together."*

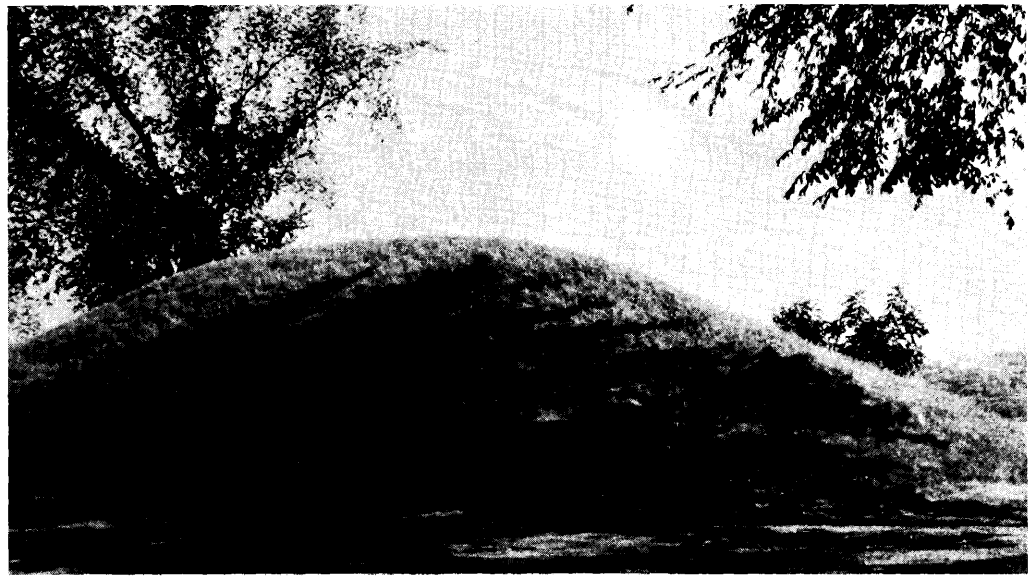
"Yea, there is supposed to be iron ore under the earth."

They went and got some of that iron ore and shoved it underneath part of the land, and that iron ore rock grew in certain regions. The rest of the land became colored by rushes . . .

"I think it's finally getting to be an earth," thought Winibozho. So they kept working on making land and the vegetation kept growing. Trees began to grow. Brush and willow began to grow. Roots began to grow. Then they all began to deteriorate to make black soil. Additional plants deteriorated year after year after year. Finally it became a happy ground for all.

Other legends of the Ojibwa tell of a time when their people first lived by a great sea to the east, and of their migration to Lake Superior. From their earliest legendary homeland the Ojibwa moved north and west, first settling on the shores of Lakes Michigan

A "Woodland Cultures" burial mound of the type found in Iron Range Country.



and Superior, and later moving into the interior of Minnesota.

The Ojibwa, numbering an estimated 50,000 people at the time of Columbus, are the largest tribe of Algonkians. The Ojibwa, Ottawa, and Potawatomi originally made up the great Three Fires Confederacy, an alliance of North American Indian tribes second only to the League of the Iroquois in size and importance.

When French Jesuit missionaries first reached Lake Superior in 1640, they found the principal summer camps of the Ojibwa at Sault Ste. Marie, the place the missionaries called "St. Mary's Falls." Direct contact between the Ojibwa and European traders occurred, however, around 1612 since European goods and traders followed traditional Indian trade routes well established long before the arrival of non-Indians.

Ojibwa concentrated at the outlet of Lake Superior, known for its abundance of whitefish, but their settlements also spread out for some distance upon the northern and southern shores.

In the beginning

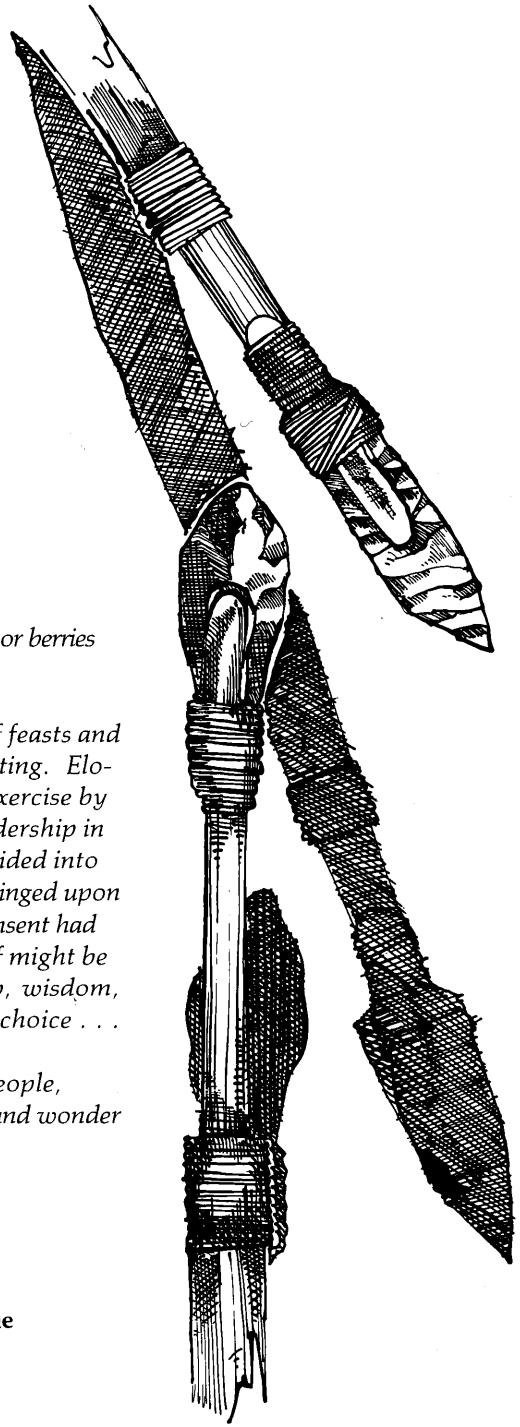
Archeological and early historical evidence agree with Ojibwa legends which say that the land they now occupy was not always of the **Anishinabe.** Three major prehistoric groups first successfully inhabited northern Minnesota.

From unknown times to about 7000 - 5000 B.C. nomadic "Big Game" or "Paleo-Aboriginal" cultures inhabited Minnesota. Living in small groups or bands, Paleo-Aboriginal groups used fire, lived in temporary shelters and probably wore animal skin clothing. They hunted large game such as the elephant-like mastodon, deer, elk, and caribou, using skillfully prepared fluted stone points. Although no actual Paleo-Aboriginal dwelling sites have been found in the Upper Great Lakes area, surface finds of early stone projectile points give evidence of the presence of these people.

Small camps of "Eastern Archaic" peoples occupied large areas of the Great Lakes region between 5000 B.C. and 1000 B.C., intensively using the resources of local environments. This pattern of use led to the beginnings of regional cultural variations such as that of the Western Great Lakes "Old Copper" culture. The Old Copper peoples followed the Paleo-Indians, and represented one of the most distinctive early American prehistoric cultures. These people were the first in the Americas known to have used metal implements. They not only used native copper in the manufacture of spear points, knives, socketed harpoon points, fishhooks and other items, but they also refined the older stone-working techniques of the Paleo-Indian cultures through the introduction of stone grinding, polishing and pecking.

"Woodland Cultures," dating from about 1000 B.C. to 1600 A.D., represent the last major group of prehistoric peoples to inhabit northern Minnesota. Known primarily for their manufacture of pottery, construction of burial mounds and the utilization of wild rice, northern Minnesota Woodland Indians expanded their food gathering activities while still depending heavily on bison and moose. Increasingly stable food supplies, such as wild rice, resulted in population increases and allowed the establishment of permanent villages. Thus, the older pattern of seasonal movement was gradually modified.

Sioux teepees in Minnesota



Western Lake Superior Woodland Indian peoples lived on the western edge of the woodland area until about 1600 A.D.

An alliance of friends

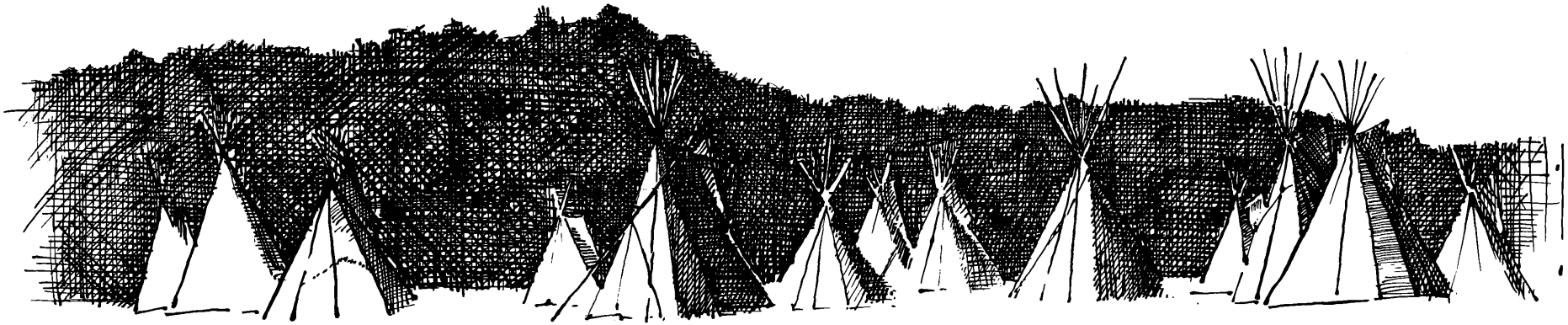
The Dakota, or Sioux, occupied most of Minnesota when encountered by seventeenth century explorers and missionaries such as Nicolet, Groseilliers, Radisson, Hennepin and duLhut.

. . . Sioux (Dakota life) . . . was packed with wisdom out of the wilderness past. Stone, wood, bones, and horns were workaday materials from which they shaped implements and weapons: axes, knives, arrows, spears and blades, hammers, scraping instruments. They knew how to start fires by friction. They made pottery. With open fires, they boiled or roasted foods and prepared soups flavored with berries or wild rice. They were clever hunters of bear, buffalo, elk, deer and small game; and they knew the fisherman's art of spear and hook. If sometimes they failed to store sufficient food for cruel winters, yet they were skilled in sun-curing meats of their favorite animals and fish. One of their prized foods was **pemmican,** *dried and pounded buffalo meat flavored with cherries or berries and preserved in skin bags.*

. . . They also were gregarious, lovers of feasts and councils and of games and jokes and betting. Eloquence among them was an art and its exercise by men of wisdom singled them out for leadership in their pipe-smoking councils. Tribes divided into bands, each with its chief, and decisions hinged upon the band council, whose approval and consent had to be won by debate. The office of chief might be hereditary, but often natural leadership, wisdom, renown, and eloquence determined the choice . . .

The Sioux were a singing and dancing people, their chanting songs expressing curiosity and wonder at nature and the spirit world:

The owls hooting softly, the owls hooting low,
In the passing of the night, the owls hooting low,
In the gray dawn of the morning, the owls hooting low,
To whom are they calling? I wish I could know.



The coming of the fur trade brought substantial changes to the lives of the seventeenth century Minnesota Dakota.

At first, the Ojibwa, becoming middlemen between the French traders and the Dakota, gained access to Dakota lands for peaceable hunting and fishing, and the Dakota were in turn assured a continuing supply of European trade goods. Trade between Ojibwa and Dakota developed rapidly.

In the 1720s, the French began to expand their exploration and trade to the west. They established new trading relationships in the Cree territory of southern Ontario and Manitoba, and in 1927 established Fort Beauharnois at the upper end of Lake Pepin in southeastern Minnesota. Trade from Fort Beauharnois cut sharply into northern Ojibwa-Dakota commerce since the Dakota who had formerly relied on La Pointe Ojibwa for trade now had a direct alternative source of European goods. As trade originating at LaPointe declined, Ojibwa-Dakota relations deteriorated. During the initial era of peaceful contact Ojibwa had come to rely heavily on Dakota hunting-trapping territories. With the decline of major trading relations, the bypassed Ojibwa lost their free and easy access to important natural resources in Dakota territories. The Ojibwa subsequently allied themselves with the Cree and Assiniboin against the Dakota, and for the better part of the next half-century carried on one of the longest series of skirmishes fought between American Indian peoples. By the 1770s, the Ojibwa had taken over most of northern Minnesota, becoming the predominant Indian people in most of this area.

Throughout the long period of conflict numerous attempts were made to reestablish peaceful relationships between the Ojibwa and Dakota, attempts made largely by European traders who desired to renew profitable trade relations in the interior of Minnesota. Only with the Treaties of Prairie du Chien in 1825 and Fond du Lac of 1826, did both groups finally agree on a line dividing their lands. These treaties established formal Ojibwa-Dakota boundaries and marked the beginning of a series of white-imposed territorial divisions.

The new place

By the nineteenth century, the Ojibwa peoples living in northern Minnesota areas had adapted to an area rich in fish, wild rice, wild berries, sugar maple trees, and to a lesser extent, game and desirable fur-bearing animals.

Within the natural seasonal cycle, groups celebrated events in the life cycle of individuals with prayer, ceremony, and fasting. These events, or stages, included birth, naming, youth or early period of education, adolescence, courtship and marriage, adulthood, and the transformation to the next life. From birth to death, ceremony emphasized the importance of nature and harmony in life.

The boiling moon

Each month or season was named according to its predominant activity or characteristic. The arrival of the first crow, about March 20th, signalled the beginning of the activities of the "boiling moon," or maple sugar time. Seeing the first crow, or the hearing of his call, brought excitement to the winter camp, for it signalled the end of what was many times a long and hard winter, and the beginning of the economically more prosperous times of the annual seasonal cycle. From the latter part of March until May, Ojibwa moved entire villages to the near-by "sugar bush". Each female head of an Ojibwa family claimed her sugar hut through her mother's family.

Ojibwa maple sugar camp

Sugar maple trees were common, and each group of relatives or friends had its own portion of the sugar bush to which it returned annually. No one would willingly miss the activities of the sugar camp, for it was a festive time reuniting friends and relatives.

Sugar camp days were busy. People carried sap, made new sap-baskets, chopped wood, kept the sap boiling all night long, strained sugar and stored sugar and sugar cakes for future use. In a good season, a family could easily prepare five hundred to six hundred pounds of maple sugar, more than enough to supply its needs for a year. Early explorers reported that Ojibwa could sustain themselves on maple products when fish and game were difficult to procure. They used it in many kinds of cooking, to season fruits, wild rice, vegetables and fish. Children delighted in maple-cake confections. In summer, maple sugar dissolved in water made a cool drink. Not merely a seasoning, maple sugar served as a necessity of life.

Budding seeds time

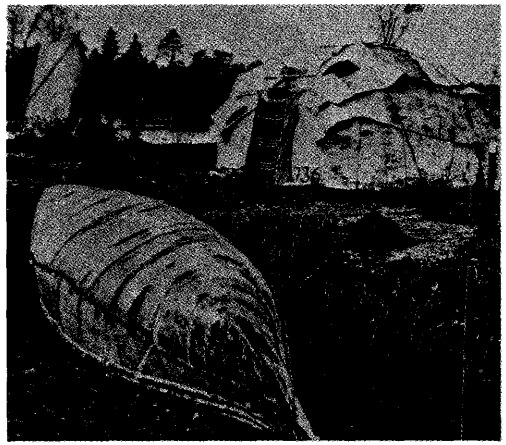
When the sap stopped running and sugar camp activities had been completed sometime in May, families returned to their summer villages where they

Ojibwa, Chippewa, and Anishinabe

Ojibwa, Chippewa, and Anishinabe are names used interchangeably for the *Otchipwe* peoples. Historians frequently suggest the name *Otchipwe*, or *Ojibwa*, originally meant "to roast until puckered up," referring to a style of moccasin with a puckered seam worn only by them. Others incorrectly ascribe the name to the supposed practice of torturing prisoners of war by fire." The explorer Henry Rowe Schoolcraft thought the name related to a sound which meant "language" or "voice." The name "Chippewa," by which the Ojibwa are frequently known, is thought to be a result of misunderstanding and faulty recording of *Otchipwe*. Treaties and other documents of the United States Government usually employ "Chippewa." Most Ojibwa consider their appropriate name *Anishinaubag*, or more popularly, *Anishinabe*, which means something like "real or genuine people."

Ojibwa harvesting wild rice

The Ojibwa people were experts at using birch bark for their homes and canoes as well as household objects.



began preparations for planting gardens. Individuals, families or members of the community jointly planted gardens, depending on local custom. Gardens varied in size from a small patch to several acres. The Ojibwa cultivated native potatoes, corn, beans, pumpkin and squash, corn and squash being the most important. Domesticated crops provided an important supplement to the hunting-gathering-fishing economic base of the Ojibwa and contributed significantly to the winter stores.

Blueberry moon

Gathering wild foods also comprised a major economic activity throughout the summer and fall. Women and older children collected many types of berries, including wild strawberries, raspberries, blueberries, chokecherries and cranberries. Ojibwa ate berries alone or used them as flavoring. They dried blueberries, chokecherries and juneberries whole, "pounded down" dried chokecherries, and boiled and dried raspberries in the sun, using dried and preserved berries throughout the year.

The Ojibwa collected dozens of plants, barks and medicinal herbs, putting them to a variety of uses, as teas, spices, foods, and medicines. Ojibwa used tree bark in beverages, as medicine, and to make items ranging from mats and small baskets to the birch-bark canoes for which they were famous.

Rice-making moon

Gathering wild rice constituted the greatest activity of the year. Autumn rice camp corresponded generally to maple sugar camp. About September, each family erected temporary houses on the shores next to their rice fields. Family groups had specific shares of the rice fields and family ownership was seldom disputed. The women established this right of family ownership by tying a small portion of rice in the rice beds into little sheaves.

During the three or four weeks of rice camp, wild rice was collected by "knocking" rice grains onto woven mats placed in the bottoms of canoes. Traditionally, women cooperatively gathered the wild rice grains, although men also joined in the harvest in some areas. One person poled or paddled at either end of a canoe while one or two others sat on the floor in the middle, pulling rice stalks over the gunwale of the canoe and gently, rhythmically, knocking the rice heads off with two sticks, onto woven mats or blankets placed in the canoe bottom. Ricers often gathered in this manner quantities of over one hundred pounds in from four to six hours a day.

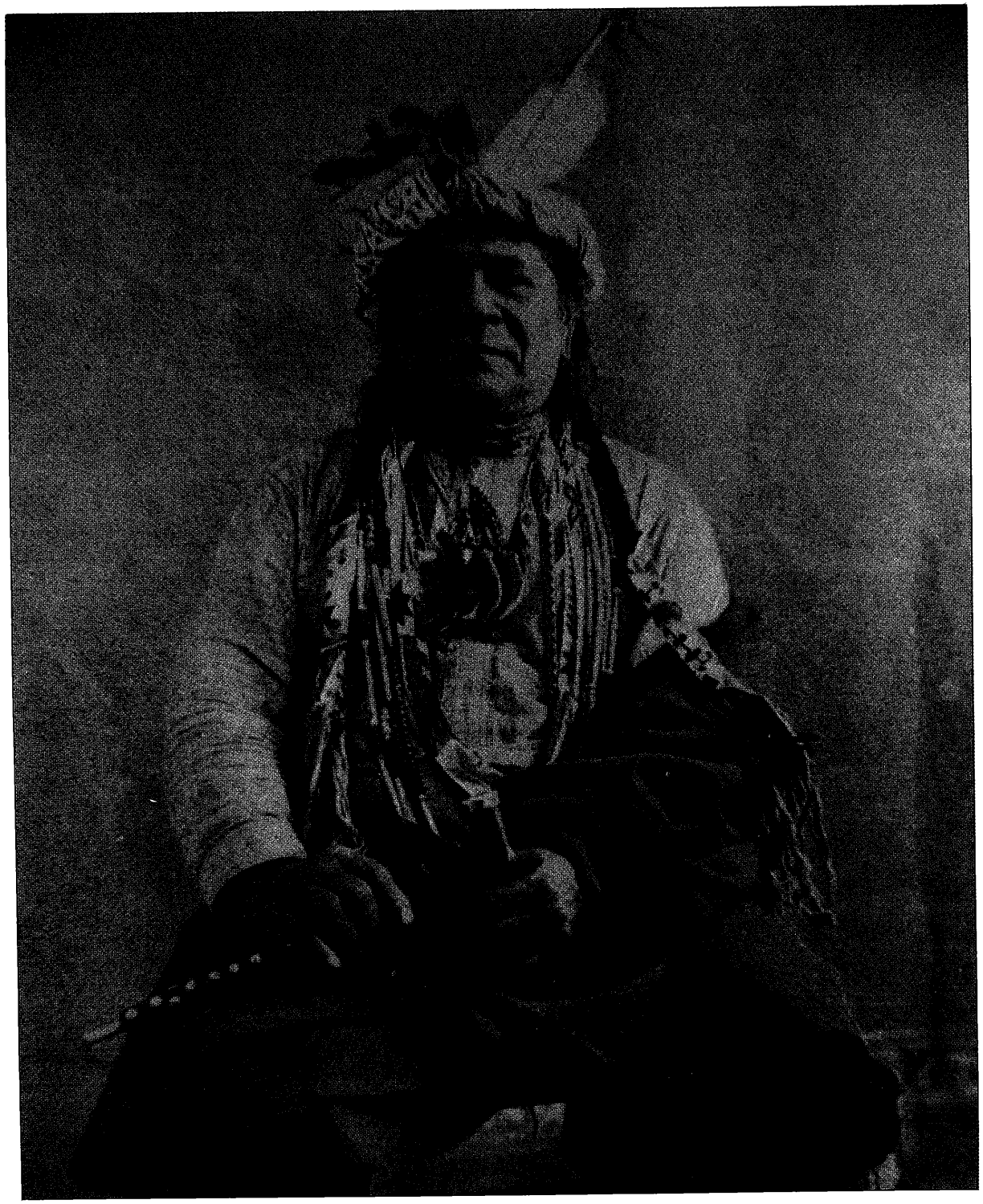
The Ojibwa kept out as much finished sun-dried, parched or roasted rice as they thought necessary for immediate use, burying the remainder of the harvest in caches to prevent it from being eaten by animals or stolen by an enemy. They stored rice in sewn animal skins as well as in covered birch-bark boxes.

Wild rice feasts blended together social pastimes and religious ceremonies. Always a part of the Ojibwa rice camp, feasts provided for good feelings among the people.

It is difficult to overestimate the economic and social importance of wild rice to the Ojibwa, or the role rice fields played in the history of the area. From prehistoric times wild rice has been a key crop in northern Minnesota, with suffering and hardship resulting from occasional crop failures.

The moon of the falling of the leaves

About mid-October, individual families or small groups moved from their rice camps to their fishing grounds. Women set their basswood-twine nets, catching as many as two hundred fish a night. They thoroughly washed the nets, dipped them in a sumac leaf solution to destroy the fish odor, for they



Ojibwa storyteller, Eniwube

believed that fish would shy away from nets with any odor on them. They used herbal "medicines" on the nets to attract the fish. Ojibwa regularly used such medicines to improve luck in gathering or hunting foods. While they obtained most fish by netting, the Ojibwa also speared fish at night by the light of a birch-bark torch. They also used fish traps and deer-bone fishhooks, smoking, drying, or freezing the late fall fish catch for use throughout the winter.

From November or December until maple sugar-making time in the spring, Ojibwa generally stayed in their winter camps. Winter was a quiet time, with economic activity limited to hunting, trapping and occasionally spear-fishing. Story-telling, instructing the young, and visiting in small **wigiwams** filled the winter hours.

Ricing, sugar-making, berry-picking, and fishing, hunting and trapping brought Ojibwa into intimate spiritual contact with nature. They viewed the world as a unified whole, an integrated world to which spirits, deceased relatives and friends, animals and all nature belonged. Living and inanimate things shared the same life spirit. The Great **Manitou** provided a single universe where people and animals

An Ojibwa Mide lodge

intermingled, and natural signs through which Ojibwa could communicate with animals and spiritual beings. The **Manitou** also provided herbs and medicines to bring health, safety and good luck to the people. Because of their beliefs, the Ojibwa could talk to and learn from animals and plants. They could communicate with the supernatural world, and considered themselves kin to all living things. So they were duty bound to be watchful of natural signs and to use medicines to maintain order and unity in the world, prolong life, and promote goodwill among friends and relatives.

The society of the mide

The use of medicines in other areas of life was practiced most extensively by the society of the **mide,** the **Midewiwin.** The **mide** practiced secret religious rites taught to them by their legendary hero **Winibozho.** The rite gave life through the transmission of spiritual power, and preserved knowledge of herbal medicine for use in prolonging life and curing the ill. **Mide** were taught to treat the sick so that people could live a long and full life.

The dream quest

Ojibwa considered important all dreams except those of the very young. They gained wisdom and knowledge through dreams, and in dreams many foresaw things of the future or returned to previous states of existence.

Parents emphasized the importance of dreams and taught their children the means of securing and interpreting them. Ojibwa isolated girls at adolescence in a small **wigiwam** some distance from the main lodge, but sent boys with blackened faces into the forest to obtain a dream or a vision.

During the adolescent dreaming, or "vision quest," one most often dreamed of an animal who gave special instructions on how to live and directions on how to use particular medicines and magical songs. Dream content varied, but all dreams brought power to an individual through a personal **manitou,** or guardian spirit. A person entered into a special relationship with the guardian or dream spirit received at adolescence, observing taboos and performing rituals as part of that relationship. Throughout one's life the guardian spirit could be called upon for assistance, guidance and protection by using a representation of the dream subject.

The homeward road

Ojibwa believed that death began the final journey to the next world. Details of belief about the next world varied from village to village, but most Ojibwa held some common ones. Firsthand knowledge about life hereafter was provided by old or sick persons who "died temporarily" and were sent by the Great **Manitou** back to this world from the "village of the spirits" because their time had not yet arrived to dwell in the land of the dead. The "land, or village, of the spirits," to which the deceased departed, lay four day's journey toward the setting sun. For four days the shadow or spirit of the deceased individual travelled the "homeward road." This road crossed a wide, deep and rapid river, finally entering the village of the spirits. Four times during the journey evil spirits attempted to divert the spirit from its homeward path. The soul of the good person encountered little difficulty with evil spirits. The soul of the coward, the lazy hunter, the stingy, the untruthful, or the inhospitable had more difficulty on the homeward road. Their souls wandered about forever, lost in unknown regions of darkness, exposed to the continual rage of the elements and dangerous animals.

The village of souls

A permanent **Midewiwin** lodge occupied the center of the village of souls. Here the beautifully-dressed

departed forever sang, danced, ate, smoked, and played games with "relatives accumulated since mankind was first created." Although game was plentiful and easily obtained, hunting was unnecessary as each spirit received food, drink, and tobacco from living relatives who continued to make offerings for their departed kin. Should living relatives forget to make provisions, the neglected deceased simply borrowed from fellow souls and then appeared in his relatives' dreams to remind them of their duties.

Ojibwa beliefs in afterlife thus unified living and deceased kin. Living family members exercised care for the soul of the deceased from the moment of death. Relatives and village members talked to the spirit which remained near the body for sometime, giving it advice and directions for its journey on the homeward road. Survivors provided the deceased with articles important to him or her in life, as well as with small birch-bark dishes, utensils and provisions to last through the four-day journey.

Whenever possible, survivors buried the deceased in shallow graves located in burial grounds of the permanent villages. The burial rite often concluded with a simple, solemn chant of the **Midewiwin:**

You will depart
To the village
Take your steps.

The modernization of the Ojibwa

Treaties and legal agreements made between Ojibwa and the United States established definite and progressively smaller limits to tribal lands and ultimately resulted in the loss of most Indian-owned lands. Long-standing attempts to define Ojibwa and Dakota territories, and open land for non-Indian settlement and exploitation, resulted in the signing of treaties which established economic advantages particularly favorable to traders, opened Indian lands for non-Indian settlement and commercial development, attempted to "Americanize" Indians through formal education and the promotion of farming, ignored Ojibwa concepts of property and land-use, officially labelled Ojibwa groups as "bands," and allowed individuals who lived outside of a territory in negotiation to sign treaties which ceded the land of other Ojibwa peoples. These treaties and agreements also laid the foundation for contemporary Ojibwa life, for they transferred most Ojibwa lands to non-Indians, established reservations, and resulted in changing traditional tribal ways.

Attempts to "civilize the Indian" through treaty-mandated formal education were based on the belief that the United States was a great melting pot, and that Indian culture could not—and should not—survive contact with civilization. The erroneous belief that Indians were a dying people reinforced the latter conception.

A new tribal identity

The emergence of present-day reservation societies was a long and sometimes difficult process. The reservation era brought many political, social, and economic changes to northeastern Minnesota. Ojibwa of the reservation era modified their lifestyles, just as their forefathers adapted to changing environments in the pre-reservation period. With most of their original lands gone, and much of their reservation territory lost, Ojibwa made their reservations not only places for physical survival, but also symbols of tribal identity. The emergence of the Minnesota Chippewa Tribe as an important political confederation of reservations fostered modern-day social and economic developments in this area.

The voyageur

"En Roulant"

A solitary loon called its high-pitched dismal laugh across Vermilion Lake. And suddenly a flurry of activity broke through the early morning mists from a secluded spot along the shore; the sound of a pan being pounded noisily, the pan-pounder shouting, "Levez, levez, levez!" The noise brought a small group of sturdy men out from under their canoes.

Voyageurs! Short of stature and stocky, they crawled out from under their makeshift shelters fully dressed in their everyday wear: loose-fitting shirts and pantaloons, moccasins, and a colorful sash which also served as a band or corset to help support the back and legs when carrying their heavy loads.

They struggled to launch their laden canoes, stowed with equipment, trade goods and beaver pelts, and their paddles struck out against the current.

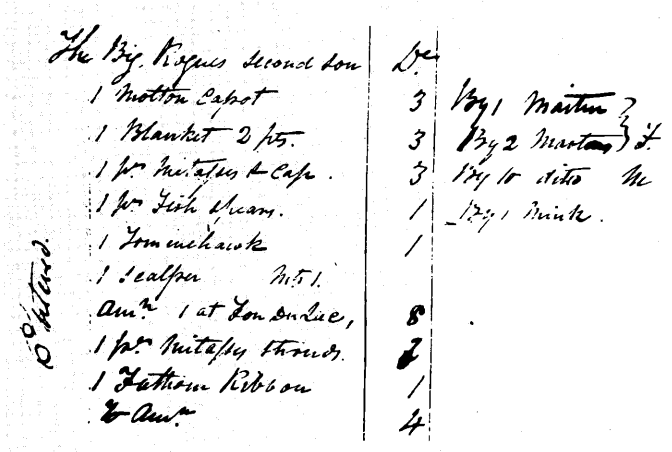
They would paddle and portage for two hours before letting themselves stop for a morning meal of beans which had been cooked slowly over the campfire the night before. They would eat in the canoe, and maybe allow themselves a quick pipeful of tobacco before going on.

These men, French-Canadian peasant farmers recruited from around Quebec and the St. Lawrence River, were the mainstay of the fur trade in North America. Boasting and behaving as if they were the center of their own world, they nevertheless were dependent also upon Indian liaisons for much of their food supplies, and for the precious beaver pelts for which they traded metal pots, steel axheads, knives, flintlocks and ammunition, blankets, beads, and liquor.

The pay to the voyageurs was no more than $100 per season, plus two blankets, two pairs of pantaloons and shirts, two handkerchiefs, four knives. Each trip was fraught with hardships: rapids and dangerous currents lurked around the next bend in the river, frostbite and starvation were not uncommon.

What was this great fuss over beaver pelts?

The rich and famous among European gentry wore beaver hats, and paid handsomely for hat-felt made from the soft inner hairs of the North American beaver. People in Europe were talking about Grand Portage, Fond du Lac, and the St. Louis River long before there was a Chicago! And from the 1600's to 1855, the French Canadian voyageurs paddled



Page from a cargo "bill of lading" for a Voyageur canoe

A modern day Voyageur (right) *demonstrates the carrying of two "pieces", each weighing ninety pounds.*

A beaver hat worn by a guide at Old Fort William, Thunder Bay, Ontario

deeper and deeper into unsurveyed wilderness, always after the prime beaver pelts. Great Britain and France rivalled each other for dominion over the best beaver territory, and skirmishes with Indian tribes, pitched battles among the competing fur companies (notably the Hudson's Bay Company and the Northwest Co-pany), and wars and treaties across the seas all played a part in shaping the fur trading era. Through it all the voyageurs paddled and portaged, season after season, year after year.

Those who canoed the "short" 1,000 miles from Montreal to the Great Rendezvous at Grand Portage on Lake Superior were looked upon with scorn and dubbed "porkeaters" by our band of winterers, or "hivernants," who would travel inland and west as far as the Pacific Ocean for a year at a time, in search of furs.

They talked among themselves now, having stopped for an early afternoon "pipe" in their canoes: "Ah, the Rendezvous" . . . There would be "food and high wine and songs to last many days! Ah . . ." The sound they always had their ears tuned toward—the low rumble of rapids ahead—cut short the reverie.

Portaging such a heavy load was almost unbearable work; and so the men used that method only as a last resort. Here, now, they might carry all the 90-pound packs while lining the empty canoes through the turbulent waters. Or half the load would be removed and half would be paddled halfway and then unloaded. Then the canoe would float back to pick up the portion left behind. Each of these methods was an attempt to stay with the canoe rather than to portage it.

On their way again, their thoughts returned to the Rendezvous and the celebrations ahead . . .

The very success of the fur trade was a main reason for its decline. As these adventurous explorers, traders, and trappers made their way west and north through most of the northern United States and Canada they were in fact pushing back the frontier and opening the way for a different kind of pioneer. The missionaries and settlers were moving in. By the middle of the nineteenth century the supply of prime beaver was seriously depleted by hunting and trapping.

And in Europe, clothing fashions were changing

and no longer was the beaver hat the finest and latest in fashion. Silk hats were now the symbol of wealth and status.

The routes within the voyageurs' trade territories, however, helped to establish borders and land claims for both Canada and the United States. The voyageurs knew every mood of these northernmost lakes we now call our own or share with Canada.

And among the Indians the wisest saw clearly all along what the fur trade, with its consequent expansion of white Europeans into their territories, would mean to the native tribes; they alone seemed to know instinctively where this new dependence upon white man's iron trade goods would all end.

There would be more and more white men. The floodgates were open. The trickle of voyageurs, clerks and fur post directors coming in search of beavers would become a veritable torrent of humanity pouring in to dig, first for gold, and then for iron!

"En roulant ma boule, roulant . . .

Voyageurs' meat jerky

The voyageurs had their meat smoked and "jerked" for weeks. This recipe is a shortened version that will give you good jerked meat for a trip:

Two pounds of lean beef or venison, cut into strips ½ inch wide, ¼ inch thick, 3-4 inches long.

Put the following ingredients into a crock or jar:

2 tsp. salt
1 tsp. onion powder
1 tsp. garlic powder
½ tsp. pepper
½ tsp. each oregano, basil, marjoram, thyme, or 2 tsp. Italian seasoning
3 tsp. liquid smoke
1 cup warm water

Soak meat in crock mixture overnight in refrigerator, with a plate on top of the meat to hold it under the liquid. Drain on paper toweling. Lay strips of meat on racks in oven and set dial at lowest temperature or at 120 degrees F. for eight hours or until meat is sufficiently dried.

The immigrant experience

The second sons of second sons—for them, the family farms inherited by the oldest brothers were forever beyond their reach. The cities, which may have seemed, to country boys on their own for the first time, to be places of irresistible glamour and challenge, soon showed another image: they were crowded, dirty pens of humanity, where food and jobs were scarce, and "independence" was only terrifying anonymity.

Times were hard all over Europe. Wars and border conflicts added to the general anxiety and dissatisfaction.

My father thought I would go to war and he said, "I'm gonna get you outa here so they don't get you." My father and I came to America.

They scraped up the money for passage somehow—sometimes cousins or uncles who had already made the bold decision to leave, sent a ticket back to a favorite sister or brother:

My sister was homesick and wanted me to come to America and help her with her children.

Sometimes parents, sick at heart to be encouraging children to put an ocean between them and their homeland, but knowing it was their only hope for a better life, tucked the family savings of decades into the chapped and work-worn hands of their adolescent youngsters.

They all clung to the belief that they would be reunited somehow, somewhere:

You see, it's this way: I was going to America and make 2,000 dollars and come back to Serbia and buy a nice piece of land and live out my life. But when I came in 1906, why, from that year until 1908-1911 — in the whole bunch of years I never could save even 100 dollars out of my pay. You had to buy the candles, the safety hats for the mine work. . .

I thought I'd see my mother and father again—I didn't forget about them. But after my mother died, I didn't go back. I thought, "I'll never go back."

But my son was stationed in Naples many years later, as a commander—and then I knew I'd go back. This was very recent. I went to see my old home, and oh, that brought back memories.

And the dreams—the dreams were vivid!

There's gold to dig in America! To take back home and be rich! My neighbor, didn't he bring back gold chunks in a jar?

And then:

I don't know where they got that gold in the jar. Somewhere in New York?

The great migration was a movement of individuals. Each person had to make his own decision even if he came with a group. And millions came entirely alone. Affected by the deep-seated social causes of migration, they were more immediately driven by the circumstances of their own lives: by factors such as disappointment in love, a brush with the police, a dispute with a boss, an overbearing father, or an urge for adventure. The only factors universally applicable were dissatisfaction with things as they were and hope in what might be elsewhere.

Some of them were rebels and misfits in their own countries; practically all were the unhappy, the propertyless or dispossessed, the restless and frustrated. But for the most part these same people were also the virile, the industrious, the hopeful, people with vision and drive.

Immigrants on deck for fresh air during an Atlantic crossing, 1902.

In eastern Europe, the old peasant society which had previously been almost self-sufficing, with home cottage industry eking out farm production, was being gradually broken in upon by industrial development. Cheap factory textiles and other items made new demands for money; new goods were available and new desires were contagious. But growth of population without the same growth of industry made increased pressures on the land.

The peasant, being free to divide up his land, and feeling that his children all had equal claims, cut up land which was only sufficient to support one family. Then he had to eke out his living by working for wages in a population where few could afford to hire labor. Debts put the borrower at the mercy of a creditor. The peasant saw himself in an intolerable position in which he would be reduced to a landless day laborer.

I live in the district of Z. I have no land of my own. I rent about two acres of land from an estate owner. And now I cannot pay the rent to the proprietor; therefore I must soon leave this place. But where can I find a piece of bread with a wife and two children? I have already been to the cities of D., S., Z., and L., and nowhere could I earn well.

For Finnish and German immigrants complete religious and political freedom were the lures. In Italy the tax burden on the poor was a crushing weight. Also, population exerted pressures upon a land that could not support it; the excess of births over deaths each year amounted to the population of an entire province.

Such pressures pushed millions of immigrants into the steerage compartments of boats setting out for America. Death claimed many who left their homes with hope in their hearts. Even those who came safely off the ships were marked by the trying experience for years afterwards.

If the perils of the ocean and the weather were not enough, the passengers were also at the mercy of greedy captains and shipowners. Medicine supplies were not large enough, and ventilation practically non-existent in the lower steerage compartments.

Everybody was sick on the boat. I started to get sick fifty feet from shore.

We were all crowded together in the bottom of the boat. That was the cheapest passage. The cook would bring us down a big kettle of stew, and one

Responding to calls for workers, Ukrainian peasants arrived on the Mesabi Range through 1917. The postwar period, 1945-1955, again found new Ukrainian immigrants coming to northern and central Minnesota.

time the boat took a lurch just as he started down the ladder, and that boiling stew came pouring down on us. One mother and baby were terribly burned, and we had no medicine, and the baby died and had to be buried at sea.

Literally and figuratively "at sea," they found themselves in a prolonged state of crisis—crisis in the sense that they were, and remained, unsettled. For weeks and often for months after the ship had landed and they had disembarked, they were in suspense between the old and the new, literally in transit. Every adjustment was temporary and therefore in its nature bore the seeds of maladjustment, for the conditions to which the immigrants were adjusting were strange and ever-changing.

Many landed in Canada and came over the border to the United States by train.

We came through St. John's, Canada, and at Christmas we were in Michigan on a train coming to North Hibbing. You couldn't buy anything because everything was closed. We were so hungry, and it was the day before Christmas. The conductor felt sorry for us and he went somewhere and got a loaf of bread and some bananas and just divided them between us. He don't charge nothin'. He just divided it.

We went as far as Carson Lake. But there was no job. We slept with relatives. This fellow who came with me, he had some money. I worked six days at A. and then they shut down. The only company working was Oliver and I went there every day but no jobs. I walked every day from Carson Lake to Hibbing to look for a job, and it was rugged country then.

Throngs, of course, came by ship to Ellis Island.

We were so glad to see the Statue of Liberty and see all those wild birds flying about . . .

They had a big long line for all us immigrants; and a leader led us through the streets, with a list for where we were to go. Every so often the whole line would stop to let someone off.

They put a sign around my neck: **"Steve Sulomaki going to Duluth"** *and put me on a train.*

I was very disappointed when I came to Gilbert. I thought it was a big city. I was very surprised; it was a small town.

Many of these new-comers to Iron Range towns came from well-established communities, both in this country and abroad. They were accustomed to paved streets, shops to supply their needs, permanent homes, friends and family, the community church where for generations their loved ones had been baptised, married and buried.

I didn't care much about coming over to America even though people in Finland always told of the wonderful times in America. They used to say something like this: "All you've got to do in America is lie down under a tree and the gold balls will fall right in your lap."

. . . I was at my father's place, you know, and when I looked out the back window at all the ash cans and garbage thrown around in the back alley, I tell you I was so disappointed I would have gone back to Finland that very day if they would have let me. They told me America was so great. At first I didn't go no farther than two to three blocks.

They kept to "their own kind" in little enclaves of a block or two, partly because they were more at ease with relatives or friends from "old country," and partly because they knew no other language, and to stray far from the supportive atmosphere of their own meant they were suddenly "outsiders," "foreigners," and were fair game for whatever outrage another gang was perpetrating.

Each new wave of immigrants—Slovenians, Finns, Italians—was looked down upon by groups that had arrived earlier—no matter how tenuous was their own modest establishment in the new country!

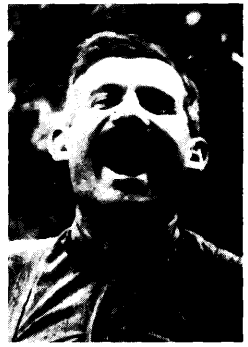
Each new minority started at the "bottom of the ladder" — economically, socially, politically — and slowly, painfully worked upwards toward better housing, better jobs, and a social niche in the newly adopted communities.

As the ore docks and railroad construction began, immigrants from all over Europe poured into the region to apply for work. "Cousinjacks" (Cornish miners) mixed with Swedes, Poles, Finns, and "Yanks."

Men from many nations jostled each other in the dark and narrow streets, drinking and roaring songs of their countries.

The earliest towns were almost lawless. Populations

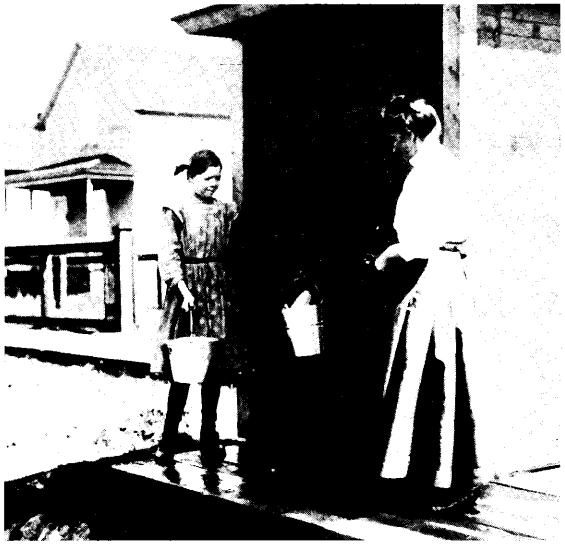
(in large proportion young, single men with few ties) grew faster than community services could be provided. Taverns and saloons were the main entertainment after long hours underground in the mines, and liquor flowed through the mud streets of the early town and location sites, disrupting any order. Suicides took a high toll of the lonely and disenchanted. Knifings, shootings, and fist fights were all of a Saturday night until communities gradually became more settled.



Young men married within the villages or scraped up money to send a ticket to a sweetheart back in the Old Country. Demand for domestic servants provided jobs for immigrant girls. As family units became the norm, more community services sprang up to meet the demands of the growing families. Schools, churches, community halls had their neutralizing effect upon the bars, and gradually, the separate enclaves of Serbians, Italians, Finns, Swedes, and French became a little less suspicious of one another's ways.

But the gold still eluded them all.

In the early days, I worked at least ten hours a day, seven days a week. The wages were two dollars a



Many locations in Iroh Range Country only had water available from a single source such as a town well. As late as 1954, one iron range town still did not have water piped into residents' homes.

day, no insurance, no vacation: we never heard of that!

When I came to Nashwauk in 1905, there everything was woods except for a clearing that included three houses. There were camps and boarding houses out in the woods.

The mining company built "locations" near the mines and then rented the houses. We paid eight dollars and fifty cents for our six-room house but that was when we had no electric lights or no water. We used kerosene lights and carried the water.

Every family had a garden and many had a cow, pigs, and chickens. The cows often roamed loose around the location grazing on the grass along the streets and wooden sidewalks. The children herded the cows back and forth from the hay fields for milking. Another regular chore was bringing water home from one of the wells around the location. In the morning before school, they grabbed a pail or two, and again after school. In the winter, water was hauled on wooden sleds, usually homemade. They were large enough for one or two wash tubs and each family had its own sled.

A helping hand in a strange land

"The Benefit Societies and the Temperance Movement"

But who was to look after the immigrants, newly arrived in a strange land, with neither family nor homeland to turn to in time of need? What was to become of a single young man injured in a work accident? Or a young widow: how was she to bring up children with no paycheck?

And not only in emergencies, but how to cope, day after day, with a different language, different money, different way of life from the old country?

Before the passage of the Wagner Act in the 1930's, before the coming of social security, before health insurance and hospitalization, immigrants needed some agency to which they could turn for support — for moral and material assistance.

The formation of ethnic benefit societies was more than a simple answer to economic problems. Along with the church and newspaper, benefit societies served to create and sustain group identity. In some cases, a local society began before the establishment of religious institutions, publications, labor unions, schools, or banks. The State of Minnesota even now has sixteen insurance companies which aided the foreign-born in the early days of community settlement.

Yugoslavian, Serbian, Czech, Polish, and Danish fraternals, begun to help ease the adjustment of immigrants to a new land, still list scholarship, athletic, charity and social events as major functions today.

The Danish Brotherhood still fosters cultural relations with Denmark as well as insuring its members and providing them with cultural activities. Most Minnesota members of the Danish Brotherhood are from the southern fringe of the Iron Range region. The Sons of Norway, largest Scandinavian fraternal in existence, covers the northeast as well as the south and the west. In fact, it serves people in twenty-five other states and the Dominion of Canada, offering a wide variety of cultural activities along with its insurance.

National fraternals have continued to be intimately in touch with the concerns, problems and aspirations of ethnic Americans, serving as cultural bridges between the United States and the lands from which their founders came.

An early iron range location town.

Each household had its own wood pile, large enough for two years. That way, the wood burned had been seasoned a year in advance. There were wood cook-stoves, pot-bellied stoves, and coal burners. The wood ranges were hot during the summer; some families used kerosene stoves then. The laundry was boiled in copper boilers on top of the wood range and then wrung through hand wringers and hung to dry.

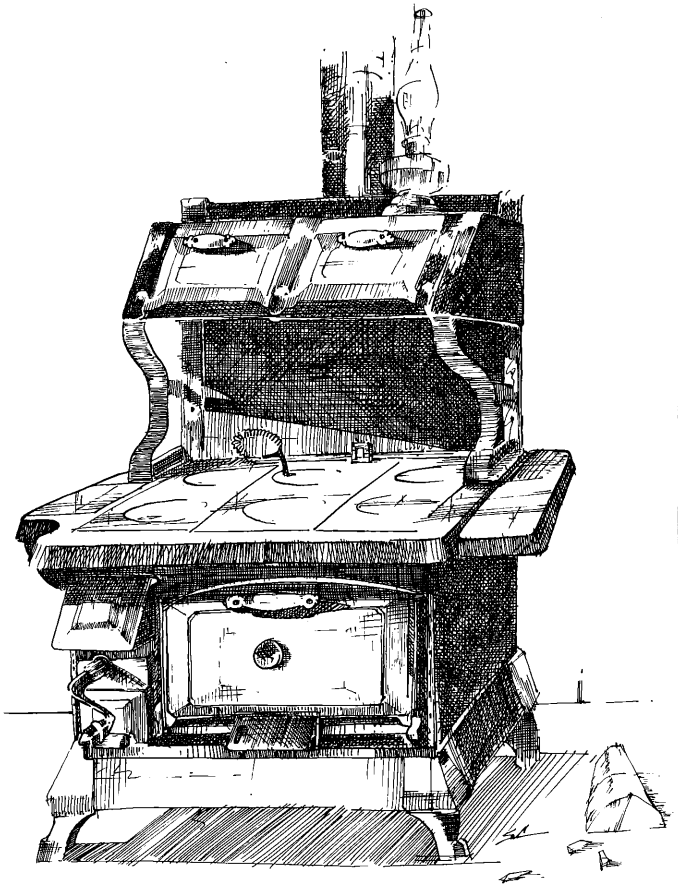
For the older boys, there was fishing on the lake and hunting for partridge and rabbits. It was not hard, either, to find a game of baseball or football going on in season.

Through the dark of the morning came the six o'clock wake-up whistle, and the call-to-work whistle blew at 6:50. The noise of the mine was always present, but most people became accustomed to it. In the summer, sometimes the voice of a teamster exhorting his horses or mules carried into a bedroom above the pounding of the conveyor belt or dumping of the Larry cars.

Near the mine-owned locations, communities sprang up. Most of the stores delivered to the location communities first by horse and buggy, then by train and later by truck.

At noon, especially during summer vacations, children carried lunch pails to their fathers at the mine. The timber pile, close to the mine shaft, was a favorite spot to sit for lunch. There were often extra cookies packed for the children, or the fathers would leave part of their meal and the children would have a picnic on the way back down the hill.

But some, even of the strong, were broken by sheer ill fortune. Others less hardy found themselves misfits and disappointed wherever they went; by migrating they had only exchanged one set of adversities for another. Housing might be worse in the new land than in the old; some were broken by struggles in the labor field. Many returned more or less quietly to their homes; others kept moving on and on, searching and hoping until they died. The totality of disillusionment and calamities was enormous. But these were not the men and women who left the lasting impact. Perhaps they should have a monument. But the successful survivors would have to build it.



Homesteading Iron Range Country

Attracted by the promise of jobs and the dream of riches, thousands of immigrants left their homelands in Europe for the iron ranges of Minnesota. Most were men who came alone. They planned to earn enough money quickly to enable their wives and families to come to America, or to become rich and return to their homelands.

The reality of the hard work and the primitive living conditions in crude mining camps or in mud-street, rough-lumber towns made life more a matter of survival than a way to get rich. Work in the mines was backbreaking, often dangerous, with ten-hour days and low wages. Paying for tools and dynamite in addition to room and board in mining camp shacks or in rooming houses in the towns, miners had barely enough to exist, with little or nothing to send back "home."

Families remained apart, often for years, and many miners never did return to Europe or reunite with families. Winter layoffs in the open pits compounded the problem. Anger at their treatment by the mining companies, which eventually led to the strike of 1907, led many to leave the mines to go back to Europe, to the West Coast, or to the land around the mines. Some miners were blacklisted for being agitators in the labor strife and could no longer get jobs in the mines. Unskilled, foreign-speaking, nearly penniless, many saw opportunity for escape and for independence in the wooded lands around the mines.

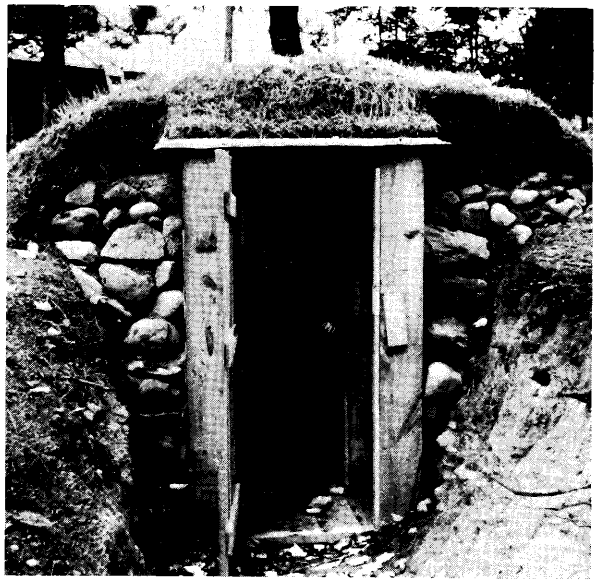
Land was available for homesteading, a method of acquisition and purchase that enabled men through hard work to get their own land and be their own boss. The Finns particularly were attracted to the wooded land around the mines; it was like that of Finland—forested, rocky, swampy. They could make a living on it. To them it was a fulfillment of **Oman tupa, oman lupa,** a proverb meaning *"own house, own authority."*

The first task of the settlers was to open a "clearing" in the woods for a home. From the logs they cut, they built their first houses of axe-hewn square logs, tightly fitted, dove-tailed at the corners, roofed with hand-split cedar shingles. Many such log walls had no nails; hand-carved dowels locked the joints. These two or three room log houses, set in stump-littered clearings, were home for many years until extra rooms were added and the logs covered with siding.

Other buildings were erected as soon as possible—first the sauna, indispensable to the Finns. Cow barns and horse barns, separate buildings of the same dove-tailed square logs as the houses, were often joined by a common roof which covered the open drive through the area between the barns. Often the barn was joined to a rough lumber hay barn in the same manner, allowing a hay wagon to be driven under cover for unloading. The style of the houses and the barns made the early rural farms of the Range replicas of the farms in Finland. The beehive-shaped haystacks formed around a tall center pole also marked the Finnish farm.

Fields were sweated out of the land; stumps were pulled by horses or blown up by dynamite, rocks were picked from the earth and hauled by horse and stone boat to piles beside the fields. Subsistence foods—potatoes, carrots, rutabagas, wheat and rye—were planted the first years, then other vegetables as gardens were enlarged.

Fields grew large enough to have hay barns in them. A cow or two, horses, pigs, and chickens provided the milk, butter, eggs and meat. Game—moose-meat, venison, rabbits—and fish—whitefish netted in the fall and smoked, northerns and walleyes angled for—added more variety.



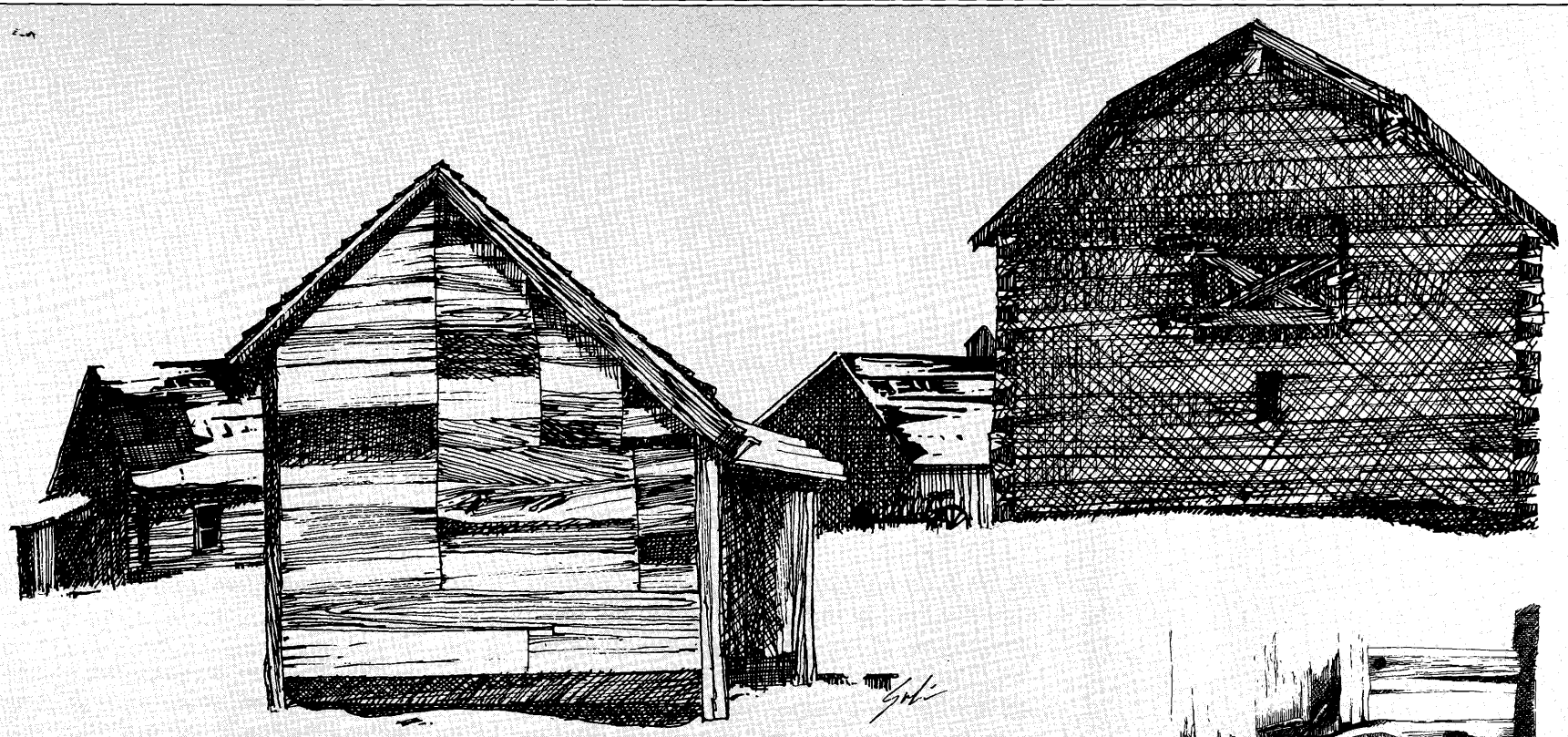
(below) *Hermiston's Grocery, Coleraine; dry goods, meat and groceries. The cases to the right contain sugar, rice, and all things to be weighed.* (right) *Entrance to the root cellar at the Eli Wirtanen farmstead.* (note page 31)

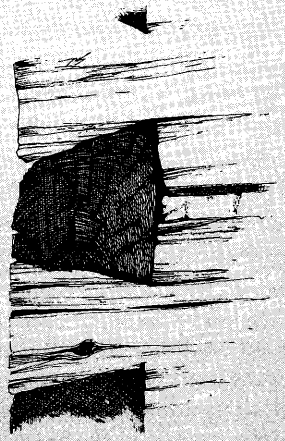
A mound of earth with steps going down to a door marked the root cellar where the winter's supply of potatoes and carrots was stored, the door unopened until early spring when the supply stored in the dirt cellar below the house, reached by a trapdoor in the floor, ran out.

Cellar steps provided cold storage for perishables, and winter provided the "freezers" for frozen meat stored in pails or boxes in the cold back porch. One hand-dug well, cased by logs or boards with a trapdoor at the top, provided drinking water until a point was later driven into the ground for a pump in the yard or in the kitchen of the house. Another shallow well provided refrigeration for milk and cream, butter, eggs, and meat in pails dangling into the ice cold water from ropes looped around nails in the walls at the top of the well.

Settlers bought crackers, hard toast and hardtack in barrels, dried apples and raisins in big boxes and flour in hundred-pound sacks to store where room was available, even in an upstairs bedroom.

Cash income came from various endeavors. Men cut timber to sell to sawmills and to mining companies, and later cut pulpwood for the paper mill





The Eli Wirtanen Finnish Farmstead

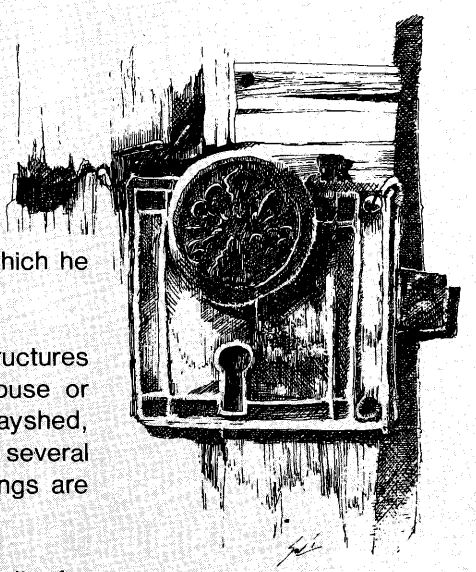
Since 1974 the St. Louis County Historical Society has owned and maintained the Eli Wirtanen Finnish Farmstead, located 20 miles south of Biwabik, Minnesota, ¼ mile off of Highway No. 4.

This forty-acre farm was homesteaded in 1904 by Eli Wirtanen, a bachelor, who built all of its buildings and most of the furnishings. During the winter months Wirtanen would sometimes work in the nearby logging camps, but until his death in the mid-1950's he spent the majority of his time at the farmstead. Like all his neighbors, Wirtanen had a few chickens and a pig. He also owned a horse and at one time even had a team. Aside from a small vegetable garden, the only crop he raised was hay which he cut and sold.

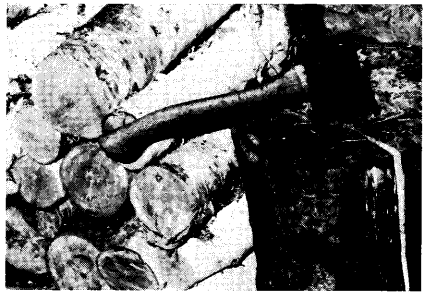
Besides Wirtanen's home, other structures on the farmstead include a bathhouse or sauna, guest house, small barn, hayshed, root cellar, outhouse, well house and several small sheds. Many of these buildings are constructed of hand hewn timbers.

Picnic tables are available at the site for visitors' use. The Wirtanen farmstead is open daily in the summer. There is no admission charge and all the buildings are marked for a self-guided tour.

Allow at least one hour for a complete tour.



July 1913 dedication of the Brimson, Minnesota "Hirsi Haali" or Log Hall, built through a cooperative hall raising "bee" by local residents.



at Cloquet. Some families hauled milk and cream, butter and eggs, and occasionally pork and veal to towns by wagon, later by car, and peddled them door-to-door or sold them to grocery stores and logging camps.

During the winter some men worked in the big camps of major logging companies or in smaller camps operated by enterprising homesteaders who bought stumpage. In these small camps, older daughters did the cooking and household tasks. Some girls worked for small wages or often only for room and board in rural homes as live-in baby sitters or household help. Some went to town to work in households of the more prosperous town residents, or in boarding houses or restaurants. Sons often went to town to work in the sawmills or mines.

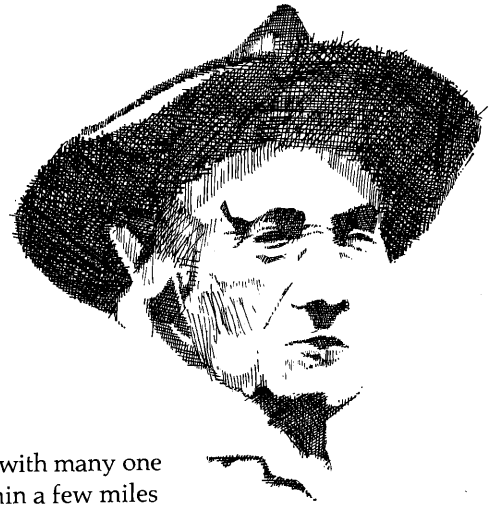
Additional small income came from the sale of furs from trap lines and the sale of cowhides and deer hides to buyers from Virginia, who regularly visited the farmers. Thus, settlers made their livings off the land with hard work. They did not expect to become prosperous and most did not, but they were landowners and able to have their independence. A few farmers, particularly those with better land, did prosper. Dairy farming and raising certified seed potatoes were the two main successful enterprises.

Community cooperation was essential for early survival. Neighbors pitched in to help neighbors—to build houses and barns, to provide food and clothing when fire or illness or death hit a family, to share whatever they had with those who were in need.

Each family, often with two or three generations living under one roof, met most of its needs, making everything from leather shoepacs to skis, from wooden kitchen utensils to hay wagons and sleds, from sausage to cheeses. They ground their own grain and knitted their own stockings and caps and tanned their own leather.

Those with special skills served the community—nursing, midwifery, laying out the dead, even preaching. In their horse-drawn wagons, peddlers from Range towns made the rounds of the farm homes, staying overnight at hospitable homes. They sold yard goods and notions, shoes and skirts. When money permitted, families bought the indispensable cream separators and sewing machines. Electricity did not reach the rural areas of the Range until after World War II.

Students outside a log school, 1908.



As the community became established, some farmers formed companies, pooled their money, and bought a saw rig or a thresher. They formed cooperatives and built the co-op stores that marked their communities. From these they purchased what they could not make and through them marketed their cream or pulpwood. The common nationality, language, customs and social level made for a cohesiveness reinforced by the early isolation from other cultural groups; cooperatives of all kinds flourished.

The relative isolation of the rural people, caused by the distance from town, which had to be covered on foot or by wagon, gradually lessened as trails became dirt roads. Railroads crossing the region provided access to most rural communities. Rural dwellers walked, skied, or were driven in horse-drawn wagon to the rail line where they flagged the train to get to town. By foot and ski, wagon and train, the seriously ill who needed hospitalization, or the rural families wanting to visit relatives in Range towns, or town men wanting to court country girls, got where they wanted to go, such travels involving overnight stays.

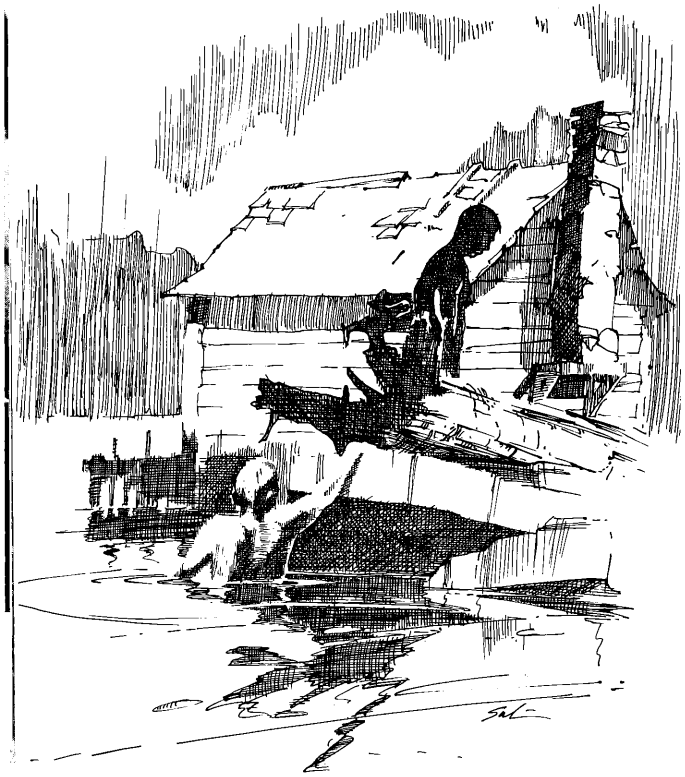
The automobile eventually solved the problem of isolation.

Schools were a vital part of rural life with many one and two room country schools within a few miles of each other. Teachers lived with families near the school until teacherages were built into enlarged schools. Students walked miles, bundled up in woolens and rubber-bottomed, leather-topped boots, carrying lard pail lunch buckets filled with milk jars and homemade bread and butter to be placed near the metal-jacketed, cast-iron stove to prevent freezing.

In winter, some families arranged for a sled-bus. One rural community had the ultimate: a little building, with a stove puffing smoke through a stovepipe chimney, built on the sled. Schools were community centers; programs were major social events. Immigrant families valued education as the opportunity for a better life for their children.

Children starting school often spoke only Finnish and had to learn English at school—from their schoolmates or often in the classroom with a sympathetic teacher. In the classroom, English was the language; on the playground, Finnish. At first, the schools provided only an eighth-grade education. A fortunate few students boarded with relatives or friends in town to go to high school. Others ended their formal schooling with eighth-grade graduation.

Dedication of a new church in Aurora, Minnesota, 1911



Schools were also naturalization centers. Immigrants wanting American citizenship attended classes to learn enough English to get their papers. After that they rarely spoke English. They had no need to in their communities and their children could translate for them if necessary.

Religion was also an important part of rural life with ministers coming once a month from a Range town, usually by train, dropping off at the nearest spot and walking or skiing the rest of the way, or being picked up by horse and wagon. Church services were held in homes until churches were built, and even then in homes in the winter, on Sunday afternoons. Church members took turns hosting the congregation in a freshly scrubbed home. The smell of coffee cooking in big enamel pots, and freshly baked breads and biscuits filled the house. Lunch always followed the last hymn. Before and after the service, men sat in the kitchen or on benches outside discussing "men's affairs," while women claimed the living room for their conversation. Children played outside, winter and summer.

In addition to the social activities provided by school and church, other events were occasions for fun and fellowship. The Saturday night (and Wednesday night) sauna bath was a social event in Finnish communities—a celebration at the end of the week, a family and neighborhood coffee social, a gathering of the family with those working in town or in the woods coming home. Smoke puffing out of sauna chimneys or from the smoke hole in the wall of the **savu,** or smoke sauna, signaled the sauna night as did the baking in the kitchen wood stoves. Men went to the sauna first, the women and little children last, several at a time. In winter, kerosene lanterns bobbing along the trodden path marked their comings and goings. No one dared leave the water barrels empty for the next bathers, and the stove had to be periodically stuffed with wood. Kerosene lanterns hung in a window in the wall between the rooms provided a yellow, dim light for the bathers. Even though the dressing room had its own stove, it was often drafty; bathers did not have to sit around too long in winter to cool off.

The seasons provided their occasions of work and fun—blueberry expeditions, wood sawing bees, haying and threshing, potato picking—when neighbors and scattered families got together. A major celebration was **Juhannus**—Midsummer's Day celebrated by the American Finns as fervently as by their families back in Finland. Families erected bowers

Community Action Club, Brimson, Minnesota, 1975

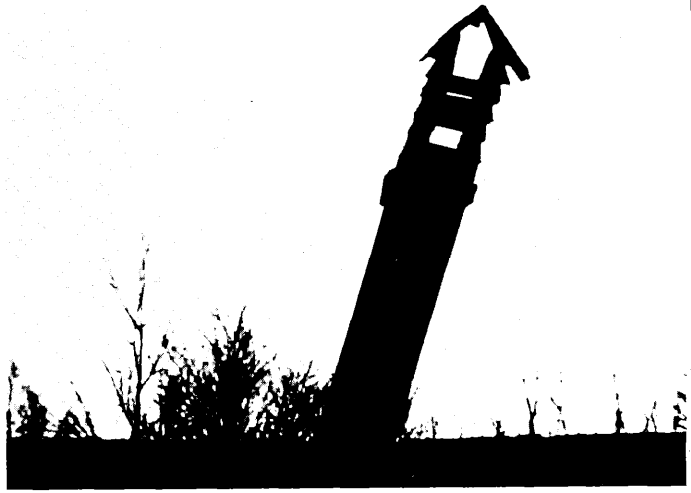
of tree branches in the yards and had their picnics. Some rural families attended the celebrations held in town. Another major event was the Fourth of July. If possible, families went to a nearby town to celebrate with the townspeople; otherwise it was marked at home with neighborly visits, picnics and special foods.

In such activities, they took in the men of the community who had no families of their own, who had come to the Range mines, had left them, and had not gone back to Europe—even though some had wives or families there. They had their pieces of land and their own little houses—the one-or two-room "bachelor" houses that were characteristic of the rural areas.

To keep up with the events of the Range, of Minnesota, and of the nation the people subscribed to native language newspapers which they circulated around the community. They argued about politics and world events, and worried about the home country. A letter from the homeland was a cause for celebration. Friends and relatives in town kept them informed about Range happenings.

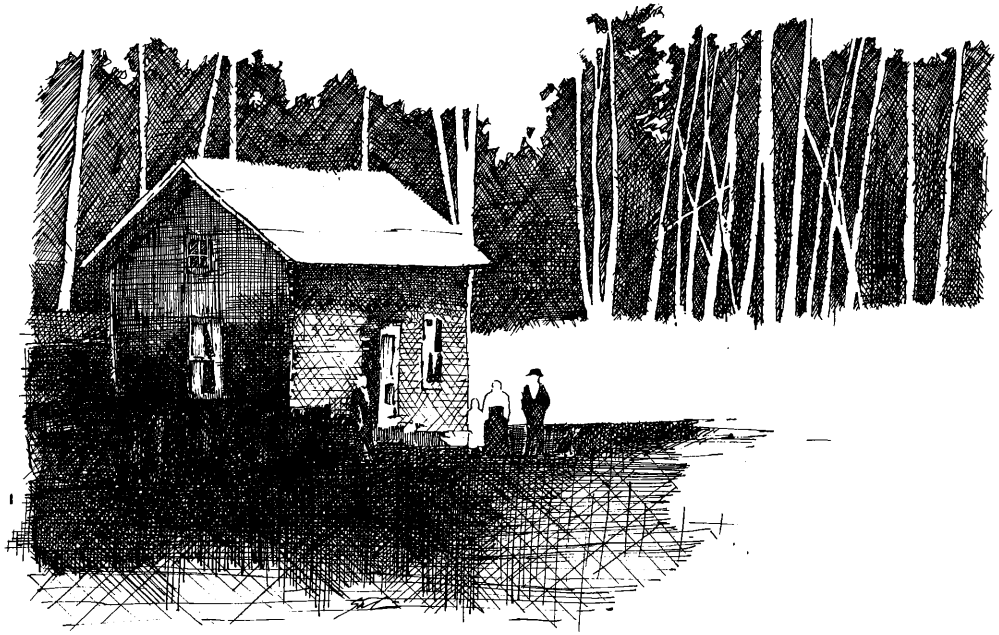
Township halls and school buildings were social centers, particularly for the first generation Americans. Some had a built-in stage, others had temporary ones set on trestles. Plays were produced and dances held. Gasoline lanterns, glaring white lights, were hoisted by pulley to the ceiling. A metal-jacketed, pot-bellied stove in a corner produced heat, at least in the corner. Music for the dances was provided by accordion or violin or whatever instrument anyone in the community played. Schottisches and polkas and waltzes predominated. The inevitable lunch was a part of the event—many halls had a small kerosene-lit kitchen with a wood cookstove. Entire families attended—the children dancing along with the grown-ups, the babies sleeping on coats piled onto the cloakroom tables and watched by a couple of girls. Automobiles allowed people from town to join the festivities and eye the young men and women.

Through the school and social events, through the marriages of their sons and daughters to townspeople and to those "of other tongues," through the influence of the automobile and the radio, the rural communities gradually became less isolated and more Americanized. The immigrant parents watched their children leave the farm to go to the towns to work in the mines; they watched their grandchildren



forget the homeland tongue, finish high school, and go on to college and become teachers and lawyers and engineers. They watched their farms decline as their children lost interest, or as the farms failed to provide more than subsistence living.

Changes occurred, of which they were proud, of which they were sorrowful. Nevertheless, the truth remained that they had made it on their own, on their own land. Their efforts helped to shape the Range and new generations of its people as much as did the efforts of the townspeople.



The women

Mrs. E. J. Longyear spent her honeymoon in a small cabin on the Mesabi Range while her husband diamond drilled the iron formation.

Polly Bullard taught school in Eveleth in 1908, calling her young students "my little onions," because in the cold weather they had to wear all their clothing, layer upon layer, to keep warm.

The four Sipola sisters' mother died when the oldest was only fourteen; together the sisters managed their home in Soudan, finished high school, and alternately supported each other until all four earned teaching degrees.

The lawlessness, loneliness and isolation of the early boom towns did not entice wives or sweethearts, and it was said that women seeking employment at the boarding houses and hotels often refused wages of five dollars a day because of the crude remarks hurled at them when they arrived on the train from Duluth.

But the women who did stay brought with them the settling, comforting, steadying hand of permanence, though their lifestyle was as demanding as that of any lifestyle pioneer women have ever had to face.

Many families, though not directly involved in the mines, came to serve the mining industry. One woman recalls her childhood; her father's failing business in Milwaukee prompted their move to Minnesota in 1894. A gala farewell party was held for them in their brownstone home. Cut glass and crystal adorned the well-laden dining room table, music played in the living room, and fancy dress wraps and feather boas were laid across the bed in the guest room.

The next morning the family boarded the train for Burnett, Minnesota. The red plush upholstery on the train seats brought tears to the mother's eyes, as it reminded her of the settee she had had to leave behind.

On arriving at the Burnett Station—where a sign flapping in the wind said only, "Duluth 26 miles south. Mt. Iron 43 miles north"—they were greeted by a driver and wagon which would take them to Grandma and Grandpa's homestead. The muddy trail led them to a small cabin; from the rafters hung sausages and strings of onions, and sacks of dried peas and beans stood about. The cradle for the baby would be a makeshift arrangement—the turning of a rocking chair back on its heels.

Life in Milwaukee had done nothing to prepare them for this.

Still, the mother shouldered her grim new tasks without flinching, and a settlement slowly grew, a school and post office "civilizing" the land after a time.

Early medical care often proved a trial for both doctor and patient. Many hospitals did not include facilities for women; babies were delivered in the home. Dr. R. Laney, serving the Virginia area, was summoned to Cook one winter night when the thermometer read −49°. He took the Virginia and Rainy Lake Railroad to Cook and was met by a driver and sleigh and taken the remaining fifteen miles. The one-room building had a wood-burning cookstove at one end and a small heater at the other end by the double bed.

As I recall, my function was mostly that of onlooker, as is so often the case with obstetrics. I had never seen the woman before and I never saw her afterwards. Of course, as you know, in those days, that was obstetrics. . .

Dr. Laney remembers making one delivery in an abandoned boxcar that a poor family used for a home.

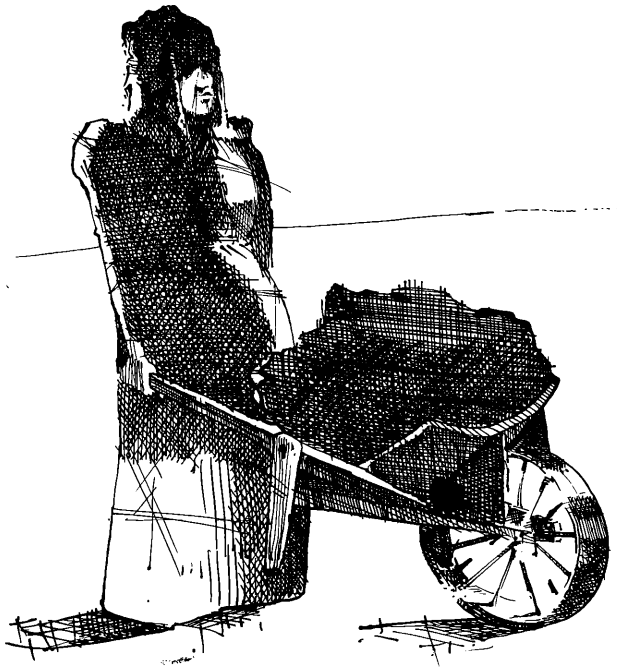
Dr. Andrea Hall

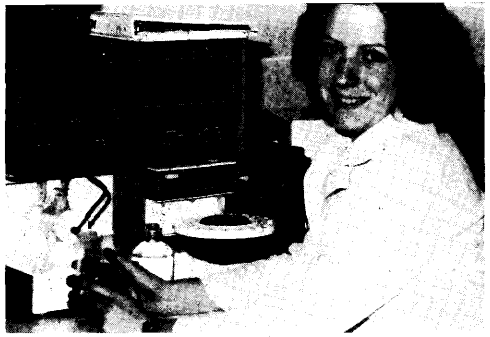
Many times while in such homes to attend an ailing one, I would try to picture myself in their circumstances and wonder if I would have the "guts" to carry on.

Seasonal work in the mines or logging camps often meant that husbands travelled quite a distance to find work and were gone for months. The women carried water, split wood, took complete care of children, cleared fields, planted and harvested, and hunted for meat. Sometimes the terrible weight of responsibility under such isolated conditions led to confused minds, suicides, and other tragic ends. Other times such responsibility brought out reserves of strength formerly untapped.

One immigrant girl, who came from Norway to Minnesota at the age of fifteen, was prepared to earn her living as a milliner and fancy ironer. After she had worked at various jobs for several years, a doctor whom she assisted as practical nurse persuaded her to study medicine.

With help from a friend, and considerable resistance from her own husband and from the medical community, she studied for and received her medical degree from the University of Minnesota in 1897.





At that time, women were not permitted internships, so she substituted for a year at the Chicago Lying-In Hospital where she specialized in obstetrics.

In 1905, that immigrant girl, Dr. Andrea Hall, came to Virginia to establish her medical practice. At the height of a severe typhoid epidemic, with one hospital filled to capacity, she rented and staffed a large house, and with endless hours of care, managed to save all her patients.

She served as company doctor for the Virginia and Rainy Lake Lumber Company, where she was known for her kindness and selflessness.

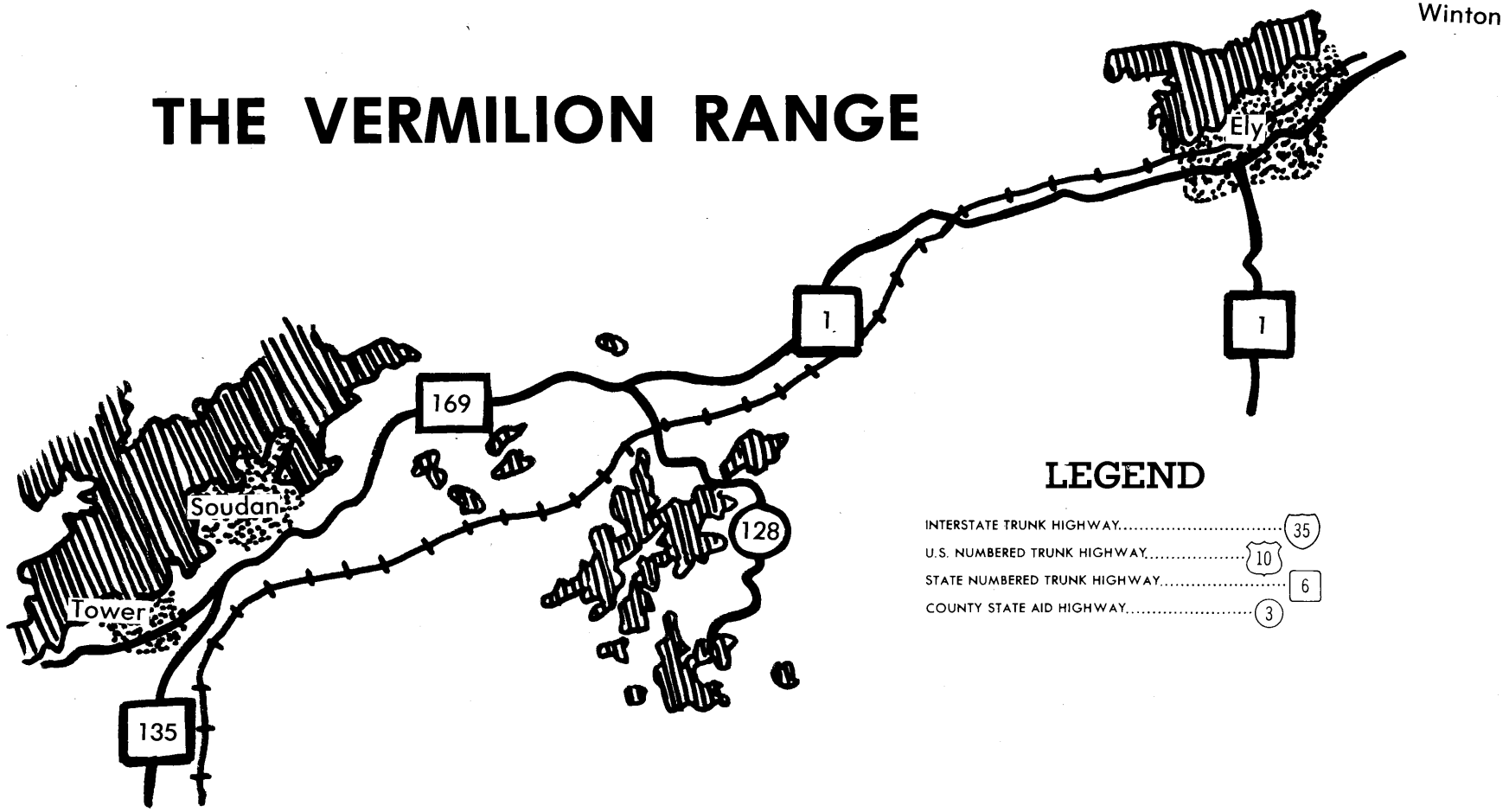
The rough pioneering days have faded into history; schools, churches, hospitals, and civic centers have sprung up across the ranges. Times have changed. Women's lives have changed.

Or have they? With the expansion of the taconite industry, families still move in for the economic opportunities, expecting to go "back home" someday. With seasonal layoffs and strikes, women are still faced with managing a family alone while men are away for long periods of time seeking employment, and many women supplement the family income with full or part-time jobs, often still having to prove themselves in traditionally male industries. Only in recent years have women been accepted for employment in the mines, taconite plants and railroads.

Iron Range Country women continue as pioneers, advancing new ideas as they search for an ever-higher quality of life for themselves and for their families and communities.

> The subject of woman's work and wages is attracting the attention of thoughtful people throughout the country. Complaints are often heard that women do not receive as much wages as their services justify. And that women, doing the same work as men, receive less pay.
>
> Minnesota Bureau of Labor Statistics
> Report—1887

THE VERMILION RANGE



LEGEND

INTERSTATE TRUNK HIGHWAY..... 35

U.S. NUMBERED TRUNK HIGHWAY..... 10

STATE NUMBERED TRUNK HIGHWAY..... 6

COUNTY STATE AID HIGHWAY..... 3

Vermilion Range Tour

Following is a brief listing of Vermilion Range towns and sites of visitor interests. Mileages are listed from the junction of Highways 53 and 169 north in the west and from Winton, Minnesota in the east. For more details on individual sites and towns, please refer to the page listings immediately following site and town names.

NOTE: Starred sites are highly recommended and may call for visits of an hour or more.

Coming from the south (Duluth) on Highway 53, follow the highway past Virginia, Minnesota to the junction with Highway 169 north. Turn right onto Highway 169 north.

1. PIKE RIVER FISH HATCHERY
   mile 17.1/30.2 — Turn left onto County Road 77 (opposite Beyer's Y store) and follow road ½ mile to the hatchery.
2. WINSTON CITY ROADSIDE HISTORICAL MARKER (page 44) mile 17.7/29 — This is a marker locating the site of Winston City, a boom town built during Minnesota's gold rush of 1864-65.
3. TOWER (page 51) mile 21.6/25.7
   ** A. Tower-Soudan Historical Museum - located next to the railroad depot, the museum contains artifacts from the early underground mining era and is housed in a reconstructed rail passenger car.
   B. President William McKinley Monument
   C. Hoodoo Point Recreation Area

**4. TOWER SOUDAN STATE PARK (page 50) mile 23.4/23.9 — This is the site of the only underground mine tour in the United States.

5. SOUDAN (page 51) mile 23.4/23.9
   A. Breitung Location miners' cottages. These are the first miners' homes built on the iron ranges and can be seen on your right as you follow the entrance road into Tower Soudan State Park.

6. VERMILION RANGE HISTORICAL MARKER mile 23.8/23.5

7. JASPER PEAK — mile 24.7/22.6
   When leaving Soudan the peak is directly ahead with a fire tower on top. The peak offers excellent views of the Vermilion and Mesabi Ranges. There is also a picnic site available.

8. PINETREE CAMPGROUND AND CROSS COUNTRY SKI TRAIL — mile 28.0/19.3

9. BEARHEAD LAKE STATE PARK — mile 31.1/16.2 — Camping, hiking, fishing, skiing and snowmobiling facilities are available at the park.

**10. ELY (page 60) mile 43.2/4.1
   **A. Pioneer Mine Shaft and Headframe
   B. Chandler Location
   C. Whiteside Park - playground and picnic area
   D. Pillow Rock - An excellent example of Ely Greenstone, one of the oldest rock formations in the world!
   E. Ely Tourist Information Center - Located in a reconstructed log cabin, the Information Center offers visitors assistance in finding accommodations, restaurants and resorts.

**11. VOYAGEURS VISITOR CENTER — mile 45.4/1.9 — Operated by the U.S. Forest Service, the Center has displays and audio visual presentations describing the history of the Ely area and the Boundary Waters Canoe Area. Permits for entering the BWCA are available from the Center during the summer months.

12. SECTION 30 (page 66) mile 46.6/0.7
    Turn south off Highway 169 onto County Roads 58 & 16 and follow road for 1.2 miles. There will be a path on your left through an open field leading up a hill topped with pine trees. The first open pit of the Section 30 mining development is just over the crest of the hill.

13. WINTON (page 88) mile 47.3/0.0
    A. Winton Community Church - built in 1902
    B. USDA Water Quality Laboratory

After returning to Ely, if you wish to begin your tour of the Mesabi Range, turn left onto Central Avenue in Ely (County Road 21) and follow the road for 15 miles to a stop sign. Turn left at the stop sign and follow signs to the Babbitt business district. From there refer to the beginning of the Mesabi Range chapter for your self-guided tour.

THE NEW ELDORADO

IN NORTHERN MINNESOTA.

THE VERMILION IRON RANGE

The Most Extraordinary Freak of Nature in All the Continent!

A Vast Mineral Deposit of Unknown Depth and thickness, Extending from Vermilion Lake Eastward for Seventy-Five Miles. Richer in Quality of Ore, and More Extensive in Deposit than any Iron Range in the World!

A PURE BESSEMER STEEL ORE,

Assaying nearly 70 per Cent of Metallic Iron, Almost Entirely Free from Impurities, and Commanding 50c more Per ton than the Best from the Marquette and $1.50 more than the Best from the Gogebic Ranges.

A New Era of Prosperity is about Dawning on the People of Minnesota. Agriculture is to be Supplemented by Mining and Manufacturing. The Glorious Fact is Slowly Dawning on the People that they have Within Their Own Boundaries Untold Millions of Wealth in the Great Deposits of Iron Ore which lie in their Northeastern borders.

THE VERMILION IRON RANGE IS THE COMING WONDER OF THE NORTHWEST

It is Pure, Hard Hematite ore, Remarkably Free from Phosphorus and Sulphur, and capable of being converted into the Finest Bessemer Steel. It lies in vast deposits extending from Vermilion lake to the boundary line. Miners are gradually coming to understand that there are no mines in this country or Europe. Great manufacturers like Carnegie Brothers, of Pittsburg, the Illinois Steel Company, and others who have used it are glad to pay from 50c to $1.50 more per ton than for the best from the Marquette or Gogebic mines. It [illegible] from 10 to 12 feet in width and extending downwards to unknown depths.

A SOLID WALL OF MINERAL!

In one place it Stands Above the Ground in places 50 Feet in Height in a Ridge Three-Quarters of a Mile in Length. It has been pronounced by the best experts in ore in this country to be without a parallel for richness and extent, and its future development will be of more moment to the state than at its past, which have given it such prominence.

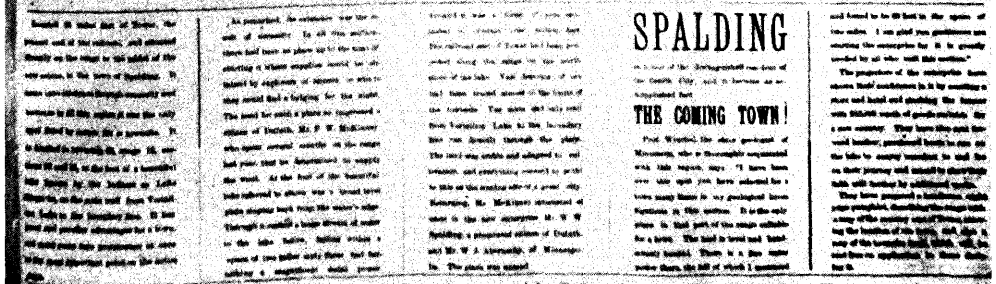
More Than 300,000 Tons

Of this ore, equaling one-tenth of the entire product of the Lake Superior region, were placed on the market last year and sold by the one company that is shipping ore from this region. This immense production by one firm and the remarkable richness of the ores has attracted the attention of [illegible] men and capitalists all over the country, and hundreds of thousands of dollars are now being invested in this property. Explorers are constantly [illegible] over the ranges in the interest of men from Chicago, Milwaukee, Marquette, St. Paul, Minneapolis, the Gogebic range and elsewhere, and their [illegible] development is assured.

TWO RAILROADS

Will be built at once along the range, and by next year in place of one there will be a score or more of mines shipping ore.

SPALDING



SPALDING

THE COMING TOWN!

Lots in the new town will be for sale at Reasonable Prices and on Reasonable Terms. Address or Call on

F. W. McKINNEY & CO.,

DULUTH, MINNESOTA.

97 AND 98, FARGUSSON BLOCK.

Mr. Carl Grosse of Two Harbors, and Mr. McKinney of Tower, are agents for the sale of lots in Spalding.

From gold to iron: the Vermilion Range

The lure of gold, and quick—if not easy—wealth called the unemployed veterans of the Civil War to prospecting, while politicians used their positions and influence to speculate.

The prospectors who came to Lake Vermilion, and the politicians who maneuvered behind the scenes, probably did not understand the nature of northeastern Minnesota. There were no fist-sized nuggets or rich lodes, no streambeds filled with pan gold. But there was a gold rush— a rush for gold locked in hard veins of quartz.

Governor Stephen Miller of Minnesota ordered two geological expeditions to the Lake Vermilion area, the first in 1864. The purpose of the expeditions was to explore rumored outcroppings of iron ore. The first started late in the season, finding ore but failing to send the samples on to the governor immediately. So a second expedition fell to the new state geologist, Henry Eames.

Eames went to Beaver Bay seeking Christian Wieland as a guide. They made for Lake Vermilion cross-country, and on the trip it became obvious that Eames had heard rumors other than those of iron ore. While the party was crossing a low range of hills that was later to be part of the great Mesabi Iron Range, their compass was deflected, indicating the presence of a large body of iron.

Wieland exclaimed, *"We're standing on iron!"* To that, Eames answered, *"To Hell with iron, it's gold we're after!"*

Eames found the quartz that he hoped contained gold and had samples sent to New York to be assayed, directing that the report be delivered only to him. The assay report was positive: for each ton of quartz, twenty-five dollars of gold. Assured that he had the knowledge before anyone else, Eames moved to obtain possible gold-bearing lands by means of half-breed scrip. The scrip was used to fulfill treaty requirements to Indians who did not wish to live on a specific reservation. They could apply this scrip toward any open land in the state, but the scrip was frequently traded on the open market as a means to obtain title to land. The scrip was never intended to be a title document to be traded, but neither was the maneuver wholly illegal at the time.

The governor finally received the samples of quartz, and had them tested by the Philadelphia Mint. The results were similar to the report Eames had received.

Gold! Gold! Gold!

A missionary, Edmund Ely, wrote of new events on the lower St. Louis River:

Great changes have taken place in the aspect of things and strangers frequently appear among us, coming on vessels and sailboats; parties of naturalists, geologic and linear surveyors, merchants and travelers.

In Tower, at the junction of highways 169 and 135, stand the remains of a water-powered quartz crusher. It had been set up on the north shore of the lake in the Trout River. The wooden support structure and the paddle-wheels disintegrated, and the hammers that beat on the hard quartz eventually fell into the river. At Everett's Bay on Lake Vermilion are the remains of another attempt to process the quartz. Beside the old piles of ore is the shell of a boiler. Both mills were hauled by oxen up the Vermilion Trail from St. Paul; neither mill was successful in the battle with the hard ore.

Governor Miller, too, now moved to form a company to obtain mineral lands by scrip before the assay became public knowledge.

The gold rush was on! Almost. It was halted when the discovery was made that the gold lands were not open land. By the Treaty of La Pointe (1854) the gold fields belonged to the Bois Forte Indians who had chosen to live along the south shore of Lake Vermilion rather than join other members of the band at Nett Lake. The Indians were agreeable to relocation and gold fever spurred a quick drafting and ratification of a new treaty. No one had to die in battles over the land.

The first actual prospectors arrived at Lake Vermilion during March of 1866, many veterans of the Civil War. They had travelled north along the Vermilion Trail, the only route to the gold fields, hastily hacked out of the thick wilderness. The roadbed could only be travelled by foot or with heavy wagon loads during the winter when everything was frozen solid. On one occasion, eighty teams were counted passing up the trail for the gold fields.

The winter ran late, and instead of digging gold, the prospectors had time to plat a town, build cabins

and name the area Winston City after the general manager of the Mutual Protection Gold Miner's Company. In only two months, Winston City had several saloons, a couple of stores, fourteen houses and an application pending for a post office. It was a tent and tar paper boomtown in the wilderness. By summer the area had a population of nearly five hundred.

Then came the bust.

Hardly any gold was found.

The quartz was difficult to mine and process. Blame fell on equipment and men. By Christmas there were very few miners left. They changed the name to Vermilion City, but still there was no gold. The city was abandoned, along with hopes and dreams and tools.

Was there ever gold around Lake Vermilion? Yes, and there may be traces of it today. Independent assays determined its presence. Eames found some. The Philadelphia Mint found some. A New York company with quartz-crushing equipment found some. But even gold mining has to be economical. Twenty-five dollars per ton was not enough of a return to make the extraction process feasible, however magical the mineral's lure.

The area of Gold Island, Birch Point, and Mud Creek was grimly dubbed "Sucker Point."

This stage coach was an early form of transportation on the Vermilion Trail during the 1890's.

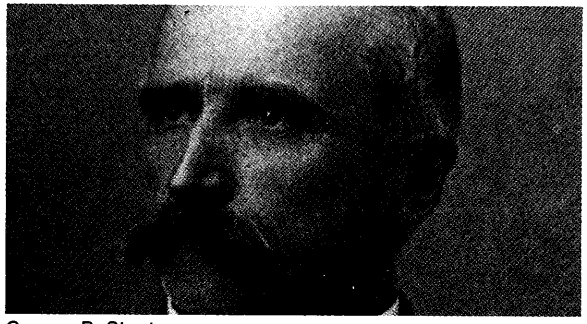
The Trail

The gold rush brought the beginnings of the first road to the North: the Vermilion Trail.

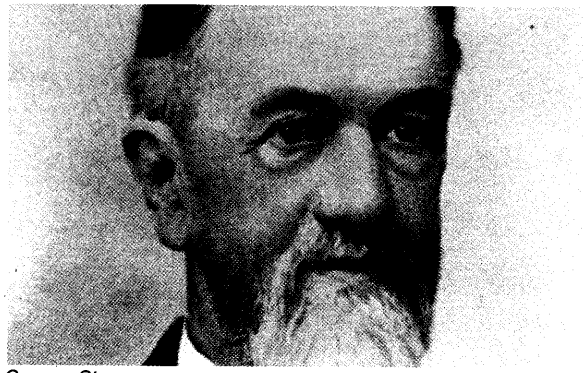
Even after the failure of the gold rush, there was strong advocacy for a year-round road to Lake Vermilion. It was built by George Stuntz for ten thousand dollars under a federal appropriation for which Stuntz himself lobbied strongly.

It took six months, eighteen men, and two wagons and oxen teams to complete the improvement of the trail. The total distance was eighty-four miles. (St. Louis County Highway Number Four is a remnant of the original Vermilion Trail.)

As for Winston City, a historical marker on Highway 169 designates the approximate location of that boom town. Little remains of the obsession that carried so many bewitched men north. Other men, with another obsession, soon pulled from the wreckage of one dream the materials with which to construct a new one! Tools and equipment wrestled over the wilderness trail were soon swinging after iron in shallow pits and shafts. Some of the boilers were salvaged for stoves by the first iron miners at Soudan. Even scrap iron was forged into nails.



George R. Stuntz



George Stone

"Nothing but Iron in sight!"

George Stuntz, who had first opened the Vermilion Trail, spent a great deal of time exploring the region for iron.

Once quoted as saying, *". . . when this country is developed, it's that big mountain of iron I saw that will do it"*, Stuntz made a test blast in the Tower-Soudan area in July, 1875.

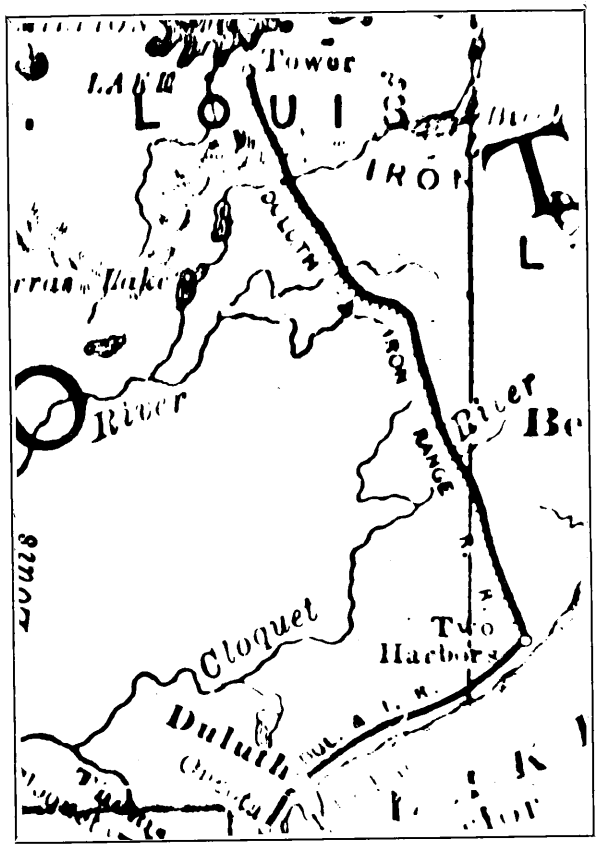
He showed his findings to George Stone, a Duluth banker, and this man was able to convince his employer, Charlemagne Tower of Pottsville, Pennsylvania, of the worth of the broken ore.

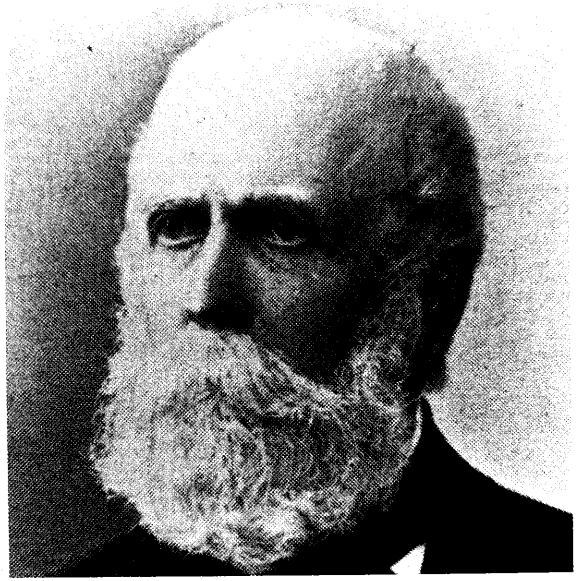
Tower dispatched Professor Albert Chester, a well-known geologist, to explore the area. Chester at first concentrated on the Mesabi range, thoroughly test-pitting it. And then he got his first look at Stuntz's mountain.

It was a magnificent sight. Nature had done the mining and all that was necessary was to break up the formation, and many tons of rich hematite would be ready for shipping.

With this assessment, all eyes turned to the Vermilion

(right) Charlemagne Tower
(left) Charlemagne Tower Jr.





Range, and the soft, easily mined ores of the Mesabi would be by-passed for more than a decade!

Five years later, in 1880, Chester led a second expedition to the Vermilion, and on the 18th of July of that year, the first charges of black powder were fired on what was later to become Soudan Hill.

The information the millionaire Tower received from Chester must have been encouraging; before the expedition was completed, Tower set plans in motion for acquiring land and assuring that his mining interests would not be taxed.

The geologist Chester was sworn to secrecy. George Stone, Tower's employee and a Minnesota legislator, worked to convince the legislature to exempt iron ore from taxation.

Stone was quite successful: the rate of taxation was established at a minimal one cent per ton.

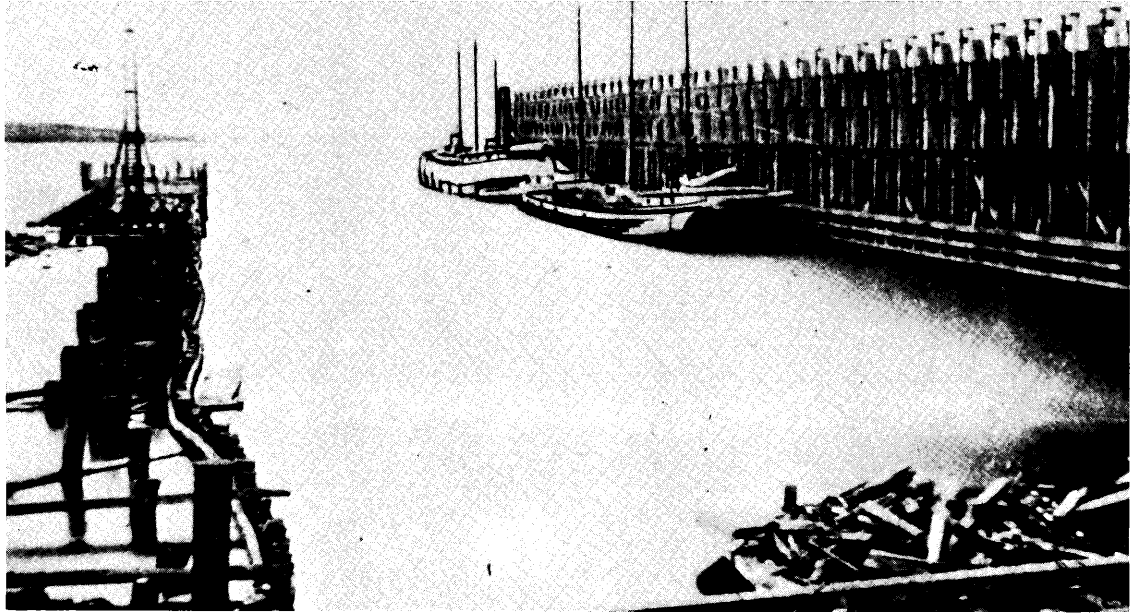
Then Stone organized, with other incorporators, the Duluth and Iron Range Railroad Company, and soon an act to secure credit for railroad building passed the Senate, authorizing at the same time the construction of 68 miles of railroad from Lake Vermilion to Two Harbors on Lake Superior.

Now Tower, through Stone again, purchased vast tracts of land for mining. The first purchases were from Francis Roussain for four dollars per acre, including 840 acres of "scrip land." These same properties would later become the Lee and Breitung Mines, worth millions!

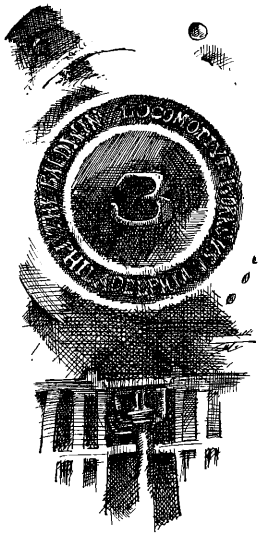
Other lands were picked up by Tower by the use of "entrymen" who, claiming to have homesteaded each piece of land, sold it to Tower at the rate of five hundred dollars a quarter section, or 160 acres. Soon Tower held the entire west end of the Vermilion Range! He transferred the land titles to the Minnesota Iron Company formed in December of 1882; he, his son of the same name, Stone, Stuntz, and two others were the stockholders.

But the Government Land Office, with ex-Governor Miller as special agent, was investigating land frauds in the Duluth district. In a government prosecution, one agent testified that *"in travelling over ten or more townships I did not find an actual settler."*

Tower had undoubtedly acquired much of his land



First ore docks at Two Harbors, Minnesota, 1880's



unfairly, but it must be noted that there had been men willing to perjure themselves to file dishonest and misrepresented land claims, and then to sell the fraudulent claims. As Michael Eliseuson points out in his history of the Tower-Soudan, *". . . both the buyer and seller hoodwinked the government, and each was doing it for personal gain. This was in keeping with the 'rough and tumble' ethics so prevalent during the Gilded Age in America."*

The investigations were eventually discontinued. The railroad right-of-way was surveyed during forty below zero temperatures and through four foot high snow drifts. George Stuntz was in charge of one of the survey crews, and this was his last contribution to his Iron Mountain. He had opened the old Vermilion Trail to it, and had helped survey for the "iron road" to it. It would be the job of others to move the mountain.

Moving the mountain (The Soudan Mine)

Laborers swarmed into the wilderness to work on the railroad snaking its way slowly from Two Harbors to Lake Vermilion. There was work for many constructing the port facilities at Two Harbors, too. There, laborers built a giant wooden ore dock 40 feet high and 648 feet long, containing 84 ore pockets. Trains would be able to run out onto the dock and dump their ore into the pockets where it would be stored until a ship came to transport it to markets.

Other laborers worked to build a sawmill so that camps, buildings and homes could be raised for the railroaders and miners.

Supplies were still being wrestled in over the old Vermilion Trail; the supply men struggling to provision the laborers were known as *"bullwhackers."*

In June, 1882, two men and a boy hiked in and camped at Lake Vermilion. They were Andrew Sandell, Peter Erickson, and the boy, Thomas Walsh. Using hand drills to sink test pits, these first miners had to re-temper their drills over a charcoal fire, hammering them on a *"makeshift anvil of steel driven into a stump."* Extracting the hard rock from the Vermilion Range would prove an enormous challenge. Much of it was hard enough to etch glass!

The men who gathered for the initial mining enterprise were hand-picked—the best hard-rock miners "ever assembled!" From northern Michigan, Sweden, and Cornwall, England, such experienced miners

Open pit mine at Soudan in the 1880's.

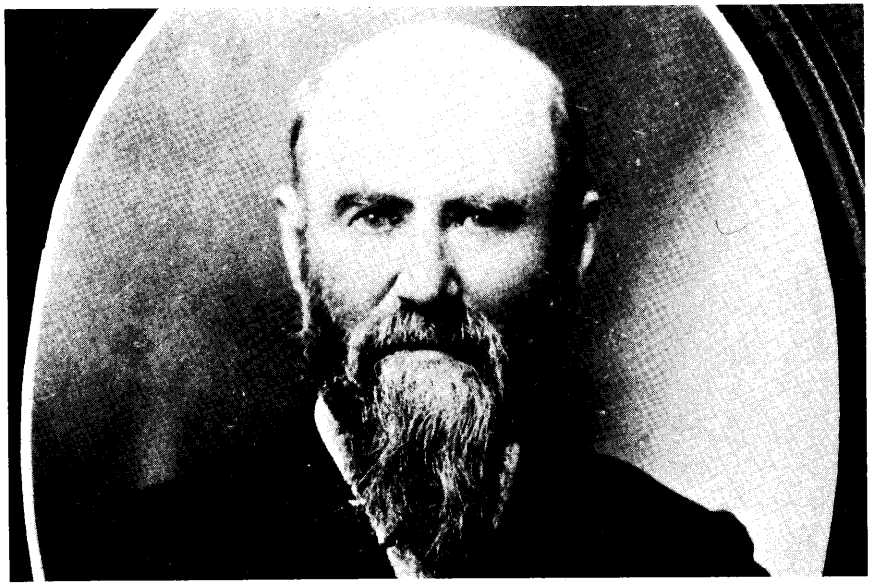
took pride in the amount of ore they brought to the surface.

At first with picks, shovels, hand drills, black powder, and bare hands, they worried the ore out of open pits. As the pits grew deeper, timber tripods and rope hoists pulled by horses helped lift the ore out. But when a mass of debris caved in on a miner in the summer of 1884, the decision was made to work the mines by underground methods. This system would be the way of life on the Vermilion Range for the next eighty years.

Each of the seven original open pits of the Soudan Mine—the Breitung, Tower, Stone, Ely, Stuntz, Lee and Montana—represented a separate shaft of ore exposed at the surface and dipping downward to meet in a main body deep within the earth.

Underground mining

When underground mining began, a shaft was sunk parallel to the ore body. A drift connected the shaft to the vein of iron, and the ore was removed. Mining always proceeded upwards, the chunks of ore falling to the floor of the shaft, called a *"stope."* Mule-trains of cars brought the ore out from the



Elisha Morcum, early Vermilion Range mining "captain"

stope to the main shaft, from where it was brought to the surface by a lift called a *"skip."* Rocks were brought in to the drift to raise the floor of the stope as mining the ceiling continued upward.

Eight different shafts were sunk to depths of 800 feet or more; by 1884 the work force was at more than 600 men.

In the early days, a stope was mined until it broke through into the next level above. But accidents occurring in the "breakthrough" discouraged this method, and from 1894 on, a twelve-foot thickness was maintained between levels, assuring that cave-ins would be practically non-existent, because of the natural hardness of the ore.

The miners were supervised by *"captains"* such as Elisha Morcum and Nick Cowling. Of Cornish origin, the word *"captain"* aptly fit these men who ran the mines with an iron will. But with a touch of wry humor, it was Morcum himself who gave the Soudan Mine its name. He commented that the bitter Minnesota winters were *"quite different from the Sudan region of north-central Africa,"* and with that, the mine was dubbed *"Soudan."*

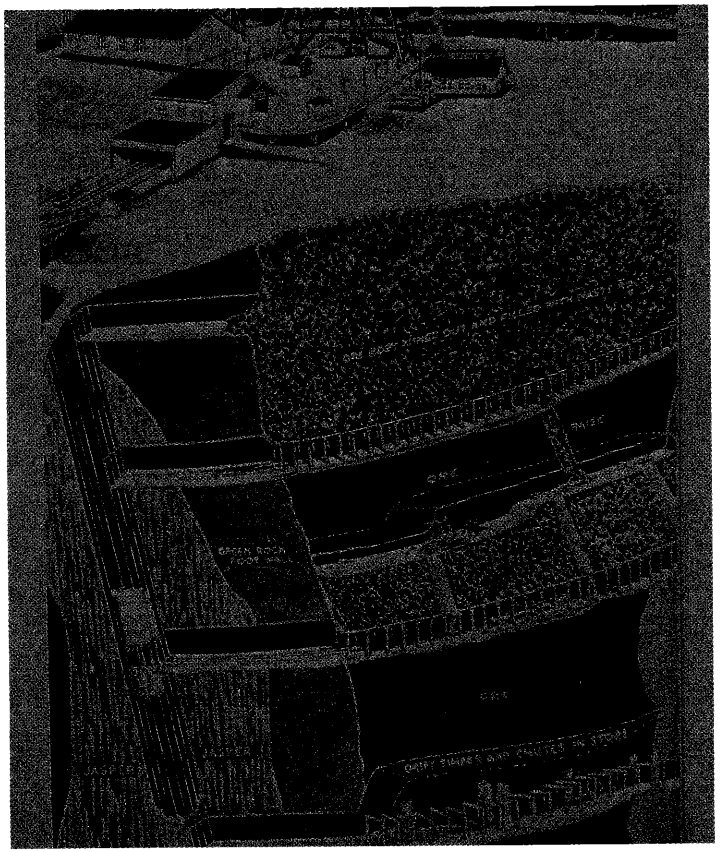


Diagram of the Soudan Mine

Tower Soudan State Park:

An Underground Experience

Tower Soudan State Park is one of the outstanding state parks in Minnesota, containing 982 acres for your enjoyment. It is located on the shores of Lake Vermilion, two miles north of Tower, and ½ mile north of Soudan, on Highway 169.

Within the southern portion of the park is the Soudan underground mine, Minnesota's first iron mine.

In 1884 the first shipment of ore left the Soudan from an open pit. Over 1800 men were employed by 1890 when the mine reverted to underground operations.

Out of the Soudan has come perhaps the highest grade and hardest iron ore in the United States, much of it surpassing a 65 per cent iron content.

The mine closed in 1962, and in 1965, U.S. Steel, the mine's owner, donated the area to the state for use as a state park.

The Soudan Mine tour is divided into two parts; surface and underground.

Walking the surface paths will bring you into contact with the open pits. Then you can tour the engine house, crusher building, drill shop and visitors' center.

You will be treated to a thrill of a lifetime with the underground tour, where you will be lowered down 2400 feet below the surface, into the underground mining areas. Upon arriving at the 27th level you will take a train through 3,000 feet of tunnel carved out of solid rock to a circular stairway. From there you will climb 33 steps into a large area called a stope, where ore was mined by the underground miners of the Vermilion Range.

From the time you start your descent, until you arrive back on the surface, you will be accompanied by an experienced guide who will answer your questions and explain all operations.

Tours will be conducted on the following schedule:

The park is open for underground tours starting in the first weekend of May from 11:00 A.M. to 4:00 P.M. NOTE: Normally the month of May, however, is reserved for school groups with reservations.

During June, July, August and the first week in September tours are conducted from 9:00 A.M. to 4:00 P.M.

Beginning with the month of October tours are held by reservation only through the winter months with a $20.00 minimum charge.

School rates of $1.00 per student with a $20.00 mimimum begin September 15th through June 15th.

Admission fees for the underground tours are:

$2.00 per adult
$1.00 per student under seventeen

NOTE: Underground mine temperatures average 52 degrees year round so a jacket or a sweater is recommended.

The entire underground experience will take approximately sixty minutes.

Tower/Soudan:

Cities of "Firsts"

Tower and Soudan were the first towns on Minnesota's iron ranges.

Tower was incorporated as a village in 1884 and named for Charlemagne Tower Sr., the eastern financier who first opened up the Vermilion Range iron mines.

Soudan, Tower's neighboring community, was named after the African Sudan, by Elisha Morcum, an early mining captain, because it was as cold there in winter as it was hot in the Sudan in Africa!

The townsite of Tower was surveyed by George Stuntz at the wilderness end of the Vermilion Trail (Note page *45*) in 1882, after a sawmill and a planing mill had been set up there to saw the pine logs floated down the East Two River. Stuntz's townsite was selected for a business section to serve the location town of Soudan where the Minnesota Iron Mining Company already had built homes for the miners.

Besides the iron mining industry, a prosperous lumbering industry was built up in the area. The year-round work of the Tower Lumber Company, which operated from 1900 to 1909, employed about 500 men in its sawmill and lumber yard. Occasionally the company hired as many as 2,000 men during the winter months in its many logging camps.

In 1884, the Duluth and Iron Range Railroad, running between Two Harbors and Soudan, was extended to Tower.

The early settlers suffered many hardships. Transportation facilities were poor. Before the advent of passenger service by rail, it took two nights and three days to travel by wagon to Duluth. The weekly mail service was uncertain. During a cold spell, the clerk at one of the local stores is said to have requisitioned a six-foot thermometer guaranteed not to freeze at 40 below zero!

Tower was also the first city in the United States to erect, in 1901, a monument to assassinated President William McKinley; it still stands on the eastern end of town.

Since the closing of the Soudan Mine in 1962, Tower has become a center of an important tourist area with a complete marina, campground and other recreational facilities emphasizing the beauty and accessibility of nearby Lake Vermilion.

Important sites of visitor interest include:

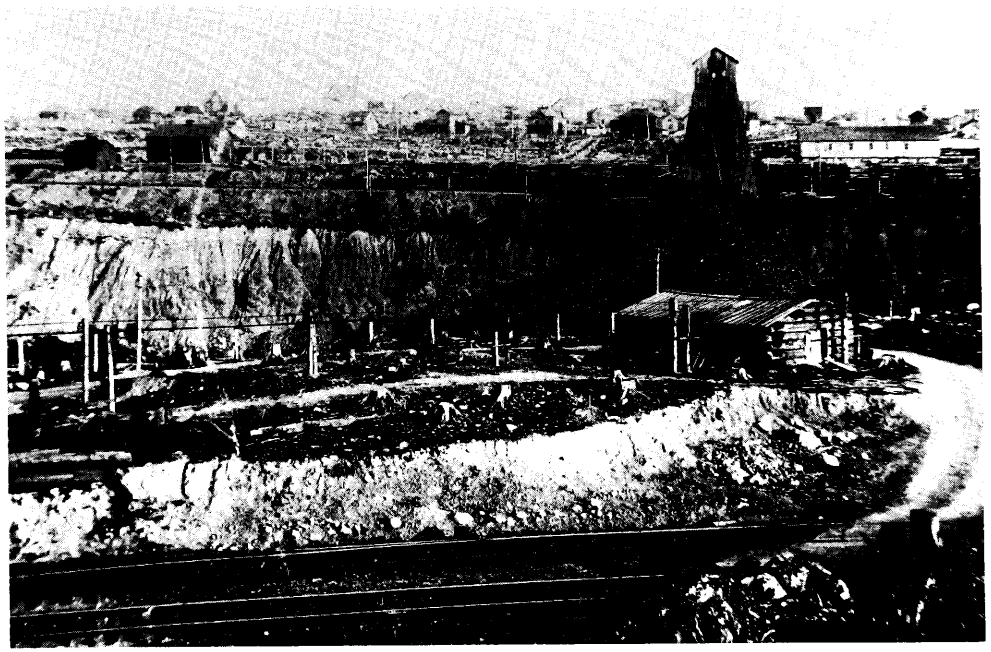
1. Tower Soudan State Park (note page *50*)
2. Tower Historical Society Museum located next to the city's rail depot.
3. The McKinley Monument
4. Pike River Fish Hatchery
5. Hoodoo Point Recreation Area
6. Winston City historical marker

Ore was stockpiled until the railroad was completed. The first engines were woodburners, pulling twenty-ton wooden cars without air brakes or automatic couplers. By the end of 1884, 82,000 tons of ore from the Soudan district had been loaded aboard whaleback steamers and shipped east from the Two Harbors ore docks. It was the highest grade iron in the world!

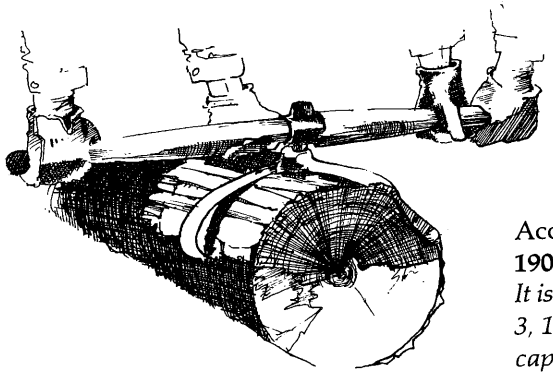
The East Vermilion

Soon ore was discovered near Shagawa Lake, east of the Soudan area. The railroad extended a spur from Soudan to the new area when the Chandler Mine was founded by the Minnesota Iron Company. The ore here was naturally crushed into chunks, and the mining process was easier than at the Soudan site. The Chandler Mine paid its stockholders $100,000 net profit a month for the first nineteen years of its operations.

Though the mining was easier because nature had already crushed it into chunks, it was also more dangerous to mine. The stopes and drifts at Soudan, once hollowed out, never collapsed. But there were many cave-ins and accidents at the east end of the district. Mining there was hard, dangerous work, and the reality of the conditions was not always reported.



The Chandler Mine, Ely, Minnesota



According to **Life on the Vermilion Range Before 1900:**

It is interesting to note that the **Ely Times** *on January 3, 1896, reported that one of the prominent mining - captains at the Chandler, in an interview with the editor, 'informed us that during the year just closed, (1895) there had not been a single fatal accident at the mine and none of any kind where the injury was at all serious. This is a most excellent showing and cannot all be attributed to good luck and is no doubt due to good management and the employment of adequate safety appliances. It became a bit difficult to understand this statement, however, when the same paper reported fatal accidents in the Chandler during that year in the May 10, May 17, and June 21 issues, and serious injuries in the February 22, June 14, and November 15 issues.*

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!

(attributed to the **Ely Times,** *January 10, 1896)*

When we first started it was slice mining. You dropped down 12½ feet, taking the ore out like a piece of pie. We went around in a circle, or a half circle, and then someone else would go around the other half of the circle. But it was dangerous; there were a lot of cave-ins and people were killed. (An early miner)

A change was made to *"sub-level caving,"* where an 8-by-8-foot drift was cut into a roughly 20-by-20 block of ore, and timbered all the way into the body. When the drift was completed, the sides and ceilings were drilled with air and blasted down. The drill holes were seven feet deep. The miners would blast, and retrieve back, scraping the ore back to a raise, a four-by-four chute leading down to the track level, where the ore was hauled to the skip to be raised to the surface. The idea was to always be dropping ore down, using gravity as much as possible.

The timbering process began with posts and caps of Norway or white pine. These were the large main support timbers, placed at six-foot centers. Over the caps smaller poles were laid parallel to the run of the drift. Whenever possible, tamarack was used for these poles because of its strength. Lagging of

thin cedar was used to fill in the gaps in the timbering to prevent smaller pieces from falling and injuring a miner. When the ore was blasted down around the drift, the timber was left, for the most part, in the drift.

Timbering is an art in itself; it's more of an art than building a log cabin, because you don't blast against the side of a log cabin.

The Pioneer Mine

All the mines were connected underground. The Pioneer Mine was located in the iron formation such that it naturally received water from the surrounding mines. In the east side of the mine, it was "raining" all the time, and the men wore rubber suits while they mined. Near the end of the operations at the Pioneer, it was necessary to pump about two million gallons of water per day from the mine!

Pioneer Mine had two shafts down to the workings underground. The B shaft was used for hauling the ore out of the mine and had two skipways and a ladder road, a compartment for emergency exit by ladder.

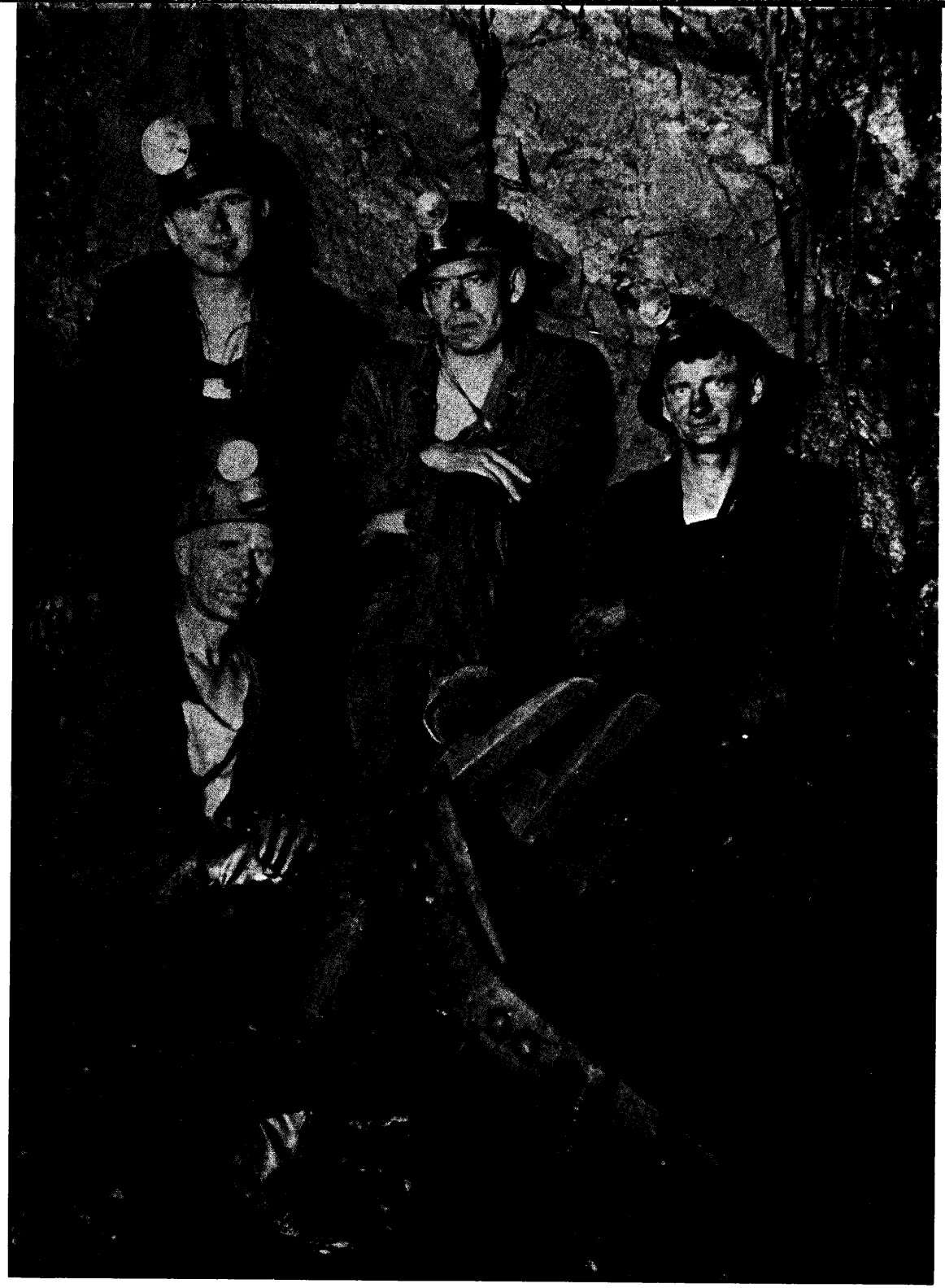
The A shaft, where the remaining head frame stands today, was the main shaft, where men and

supplies, such as timber and dynamite, went into the mine and waste rock, or tailings, came out. The cage carried as many as sixty men up or down from a shift. It had a large counterweight on the opposite end of the cable as a balance to ease the load on the hoist. The skips were used in pairs, with *"one up and one down,"* balancing each other.

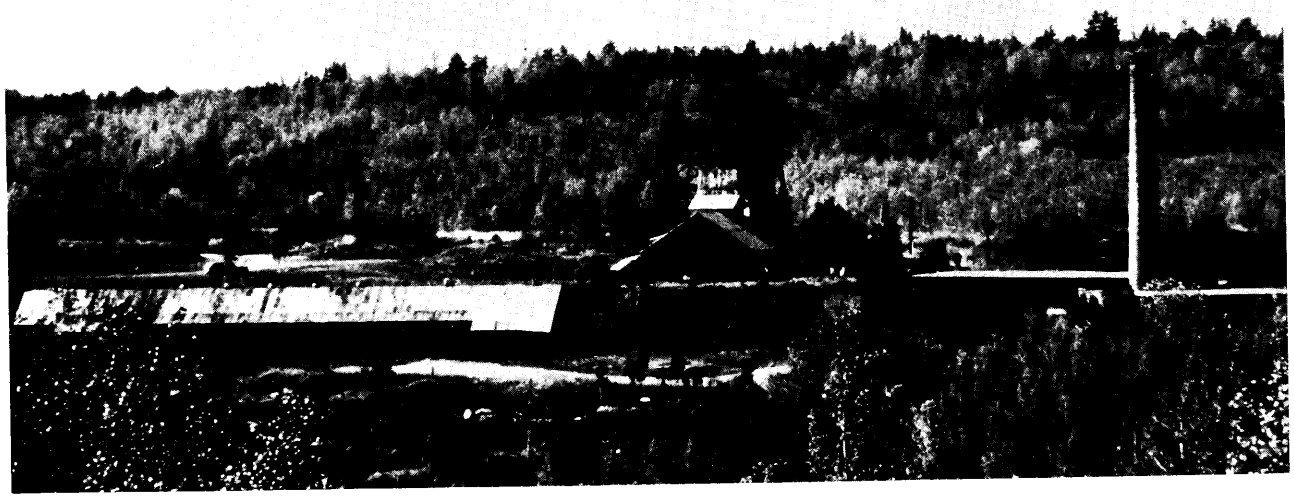
The Pioneer mined a very special type of ore used in open hearth furnaces, but when the process of making steel changed, in the late 1950s, there was no longer a demand for the hard, Bessemer type of ore of the Pioneer.

In about 1960 or '62, they began to use the oxygen method of making steel. What they would do is blow oxygen right into the furnace, and they could make a load of steel much cheaper than using our type of ore. They could make a head of steel in one-fifth of the time it took in the old open hearth. They could use an ordinary grade of ore; they didn't have to have this high-grade ore.

There were other economic factors that led to the closing of the Pioneer Mine in 1967. It was not that the ore body was exhausted. Underground mining was very labor-intensive.



Underground in the Pioneer Mine



The Pioneer Mine in Ely today.

If we got a ton out per man hour, we were doing pretty good. And in the open pits, we got up as high as 40 tons per man hour. At the Stevens Mine which was one of the good ore mines, we only had about 100 men and we put out five million tons of ore one year.

The Stevens Mine was an exceptional one, but with five or six hundred miners, the Pioneer could produce little over one million tons of ore per year. The timbering was an additional expense and it had to be used throughout the mine.

The lake filling in between the A shaft head frame and the city of Ely is the graveyard of underground mining in Ely:

The ore was taken out and the ground settled. Just like the graveyards in the old days, when they had wooden boxes, and the boxes would rot and the grave would settle.

Visiting the Pioneer Mine today

Head frame and shaft house

These are two attached structures with the head frame being the support for the sheave wheel (the large grooved wheel which the cable for hoisting passes over as the cable is reeled in or out to raise or lower the skips and cages.) The shaft house is a cover for the collar of concrete around the mouth of the shaft to protect it from the weather. There are old tracks, rails leading into this high, open, sheet-metal building.

Men's Dry House

This long, low building where the miners changed in and out of their working clothes had two large shower rooms at each end and long rows of lockers down the middle. Men came to the surface in groups of about sixty, the capacity of the cage, and went to take showers. During the first years of the mine operation the men also ate in the dry house. This changed with the coming of the unions: the men wanted to eat underground, as it gave them more time on their break. With the advent of electric lamps, as the men came up from their shift, they dropped their lamps off at the lamp room, where the batteries for the lights were charged between shifts. When the men came back on their shifts, they found their charged lamps atop their lockers. Each lamp had the miner's number on it.

Captain's Dry House (No longer standing)

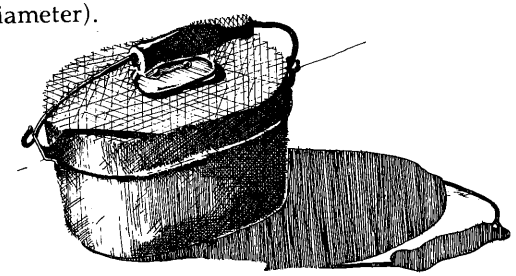
A dry house for the foremen and captains, this building also contained company offices, meeting room, garage, and office of the mine police.

Stack

Built tall in 1902 to create a strong draft for the boilers that produced the steam for the steam hoists, the brick stack replaced a metal one which was considerably smaller and had to be guy-wired and maintained regularly. This stack is one of the last existing stacks of its kind on both the Mesabi and Vermilion Ranges.

Engine House

A red brick building, it was built in 1927 with the conversion of the mine to electric hoists. The steam hoists were replaced by two 600-horsepower electric hoists. Hoists had: maximum pull of 25,750 pounds; maximum speed of 1,000 feet per minute; and cable capacity of 2,600 feet of 1½-inch cable (diameter).

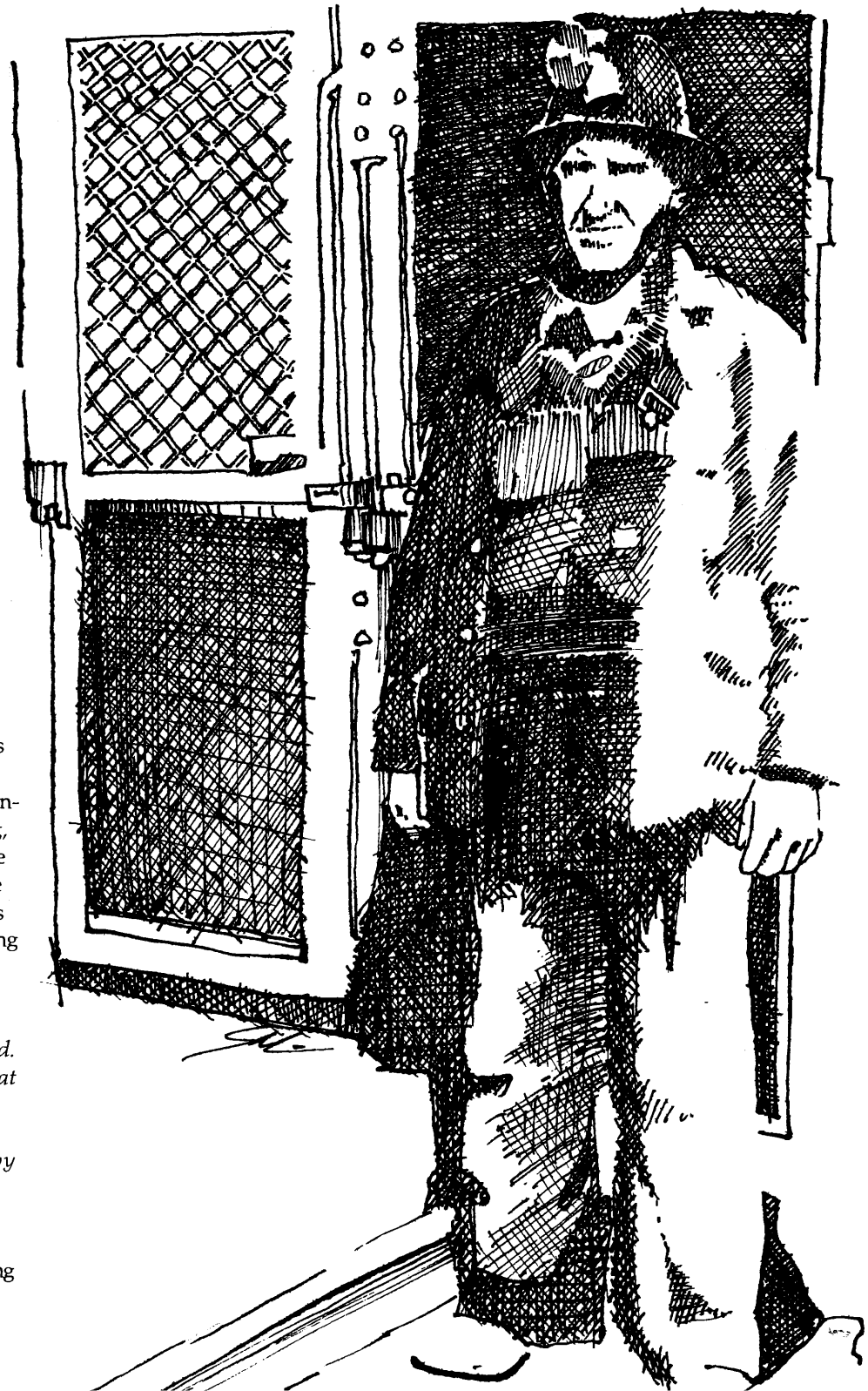


The miners

All the miners on the Vermilion Range worked as contract miners being paid for the work they did rather than earning a fixed wage per hour. The contracts paid by the foot when the miners were drifting, and by the carload when they were scraping out the ore. Other workers were considered to be on the "company account" when they worked for wages doing such jobs as tramming timber or dirt, cleaning track or performing maintenance duties.

When I started out in the mine, first they'd put us timber tramming to get us used to being underground. Then, they'd put us repairing with an old man that had been there a long time. And then they'd put us into mining with an older miner. And finally, we'd be head man in a contract. So you'd learn by doing. Now they can't do that anymore.

The head man or old man in the contract on each shift was responsible for safety and any specific mining orders would be given to him. There were actually six men on a contract, two men on each of the three shifts.



The Miner's Payroll

(From a newspaper article by J. H. Gruber, stenographer and main office assistant to George C. Stone. **Iron Ore** paper 12/2/1911.)

The procurement of funds to meet expenses was so precarious that Mr. Stone usually could not tell until about the last day before it absolutely had to be on hand, where the money was coming from, or whether it would come at all, to meet the monthly payrolls of the miners, carpenters, machinists, saw mill employees, etc., at Tower. The banks at Duluth were in those days not strong enough to meet large checks with cash on short notice, and under the conditions existing, it was impossible to give them any notice, so it became necessary for me to take the money in currency, gold, and silver, from St. Paul to Duluth each month, for eight to ten months. I would draw the money at the First National Bank of St. Paul in the afternoon before bank closing time, take it to the company office in the Gilfillan block, place it in the vault until train time at eleven o'clock at night, then, all alone, carry it in a valise to the Union Station, three blocks away and take it into the berth with me. I was keenly alive to the risk attendant upon the proceeding, and in consequence had some distressing dreams, wherein I was robbed and murdered over and over, but I never actually lost a cent. The least of the sums was something over $18,000, and the highest something over $37,000. At Duluth, where in certain months I arrived when it was still dark in the morning, I carried the precious load to the old St. Louis Hotel, placed the package in the hotel safe, and later turned it over to John Mallman, who, with another man or two would take it to the mines. The trip was made partly by team, partly by sled in the winter months, some horse back riding, and considerable walking.

Sounds Underground

Air drills were very noisy; before men were supplied with ear protection, they would hear the drill in their ears until they fell asleep. It was a tremendous amount of noise in a confined eight-by-eight-foot space, and when a contract close by set off blasts, the miners not only heard it, they felt the vibrations through the rocks; when the blasts detonated, the air would expand and push through the mine.

They did their own drilling; they did their own blasting, and they did their own mucking, dragging the ore out with a scraper so that it could drop down into the raises. They got paid for what they did. At the end of the month, the drifting amount was measured up, and the number of cars that they took out was counted, and they got paid on that basis.

Underground mining was dangerous, as there was always rock hanging over the miner's head. The twenty-foot block of ore that was being caved in usually had several areas of caved rock above it from earlier mining.

That's the thing about underground caving: you really don't know what's above you. You don't know if there's water up there, you don't know if there's a mixture of water up there. You don't know . . .

The miners, in addition to their hard hats, wore rubber boots with reinforced rubber toes. A seemingly small chunk of rock falling from the ceiling could break a toe.

When they closed the Soudan Mine, some of the Soudan miners came up here (to the Pioneer Mine). I had a Soudan miner as a partner. Their mining was altogether different. He had to learn all over again. They had big rooms to work in, and here we had eight foot by eight foot timbered drifts. It bothered them for a long time; they felt like something was pressing in.

When the (Pioneer) mine closed, they decided they were going to take 150 or so men to Minntac (modern taconite plant built in 1965). I knew the supervisors at Minntac and they mentioned to me, "I don't know what we're going to do with underground miners coming down here. They don't know anything about plants." When they got our fellas down there and they got them broken in and working, they really changed their tune. They said, "Boy, those guys showed us tricks we never heard of before!" Because in an underground mine, these fellas did everything on their own, and they were good at making things work. It was up to them to do it the best way that they could.

The Light

In the morning you went up and put on your overall in what they called a dry house. Then you marched down to the shaft, but halfway down to the shaft, there was a little place there like a hot dog stand. You walked up there and they would hand you five tallow candles and you had one hooked in your hat. And you had these others for when that one was gone, because there was drafts in the mine and that flame would burn the candle down fast. Your sleeve would be stiff from the candle dripping on it.

Afterwards, they got the carbide; and you had to line up the same way in the morning, and you would fill your light first and then they would give you a can that was half rounded to fit in your pocket so you had extra carbide. You put chunks of carbide in your light, and then you went over and filled the top of that with water. There was a little brass rod, and when you got down where you needed it, you would pump that a few times and that would let the water down into the bottom. The light would get so hot sometimes that you couldn't handle it. It had a flame that came right straight out. Boy, were they nice lights. They had a reflector, and if you kept it shined, you had a regular spotlight!

The mystery of the Lee Mine

The Lee Mine was opened in 1882 by a small crew under the direction of George Stone. At Lee Mine Hill, they stripped a breast of ore sixty feet wide and eighty feet long. The iron content was reported at sixty-seven per cent, and the hill, "nothing but iron!"

The North and South Lee Mines were operated by the Minnesota Iron Company. About three hundred men were employed at the two locations, and there were railroad tracks for removing the ore. The overburden and rock were hauled to a dump by mules, and a steam hoist was operating.

The miners dropped their tools at 6:00 p.m. and went home as usual one evening in 1888, but when they returned for the morning shift at 7:00 a.m.—the mine was not there!

All visible surface property had disappeared! Where the evening before had been offices, mining machinery, railroad lines—there was now only the empty hill! Why?

Various stories began circulating: *The ore was of too low a grade," and "the Astor Estate of New York was about to file a claim on the Lee Mine Hill under an Indian scrip claim. All tangible property was removed before litigation, which eventually confirmed the holdings of the Minnesota Iron Company."*

Whether the Lee Mine proved worthless, or was the victim of conflicting land claims, the human mystery of the mine is why the men who hammered and blasted their livings from Lee Hill were never told.

Mud Run

The old gob up above you, that was the rock and the clay all mixed together. Water would soak into it. The ground was working above you, because it was settling, just like stirring a cake. Sometimes it would break through and run into the mine, and people would get killed. When it came, it would fill 100 to 200 feet of the drift. (Area above active mining had been mined before, filling with loose rock.)

When you work underground, you get a feeling about those things. You develop another sense; but not all the time, of course. If it happened all the time (developing a sense), no one would have been killed. You get a feeling something's going to happen and you move. If you have a ladder that you could climb up instead of down, it was all right. You'd get above it right away. A lot of times the mud gave you a warning; it would start to rumble and groan before it came. Then you'd start to run.

I think everybody was afraid at different times. If they say they weren't, I think they're lying, because no matter how brave you are there are times when shivers go down your back, like hearing someone got killed or if you had to get out of a place fast on account of mud coming in or rock caving down.

Heading underground at the Sibley Mine, 1940's

Mine Rescue Team/Fires

Fighting fire underground, you have to wear self-contained breathing apparatus, and you're in a chimney with smoke. You can't see; you feel. On the Sibley fire, we put up brattices, cloth seals to cut off the air flow, sealing off the drift. We had a 500 to 600-watt lamp with us, and the only way we found it was by burning ourselves on the damn thing. If you're in a strange mine, that's kind of hard, but if you're in a familiar mine of course it's easier.

After the fire was out, we built a bulkhead out of wood and clay to seal off that area for some time to make sure that the fire was out.

Ely before 1910

Ely!

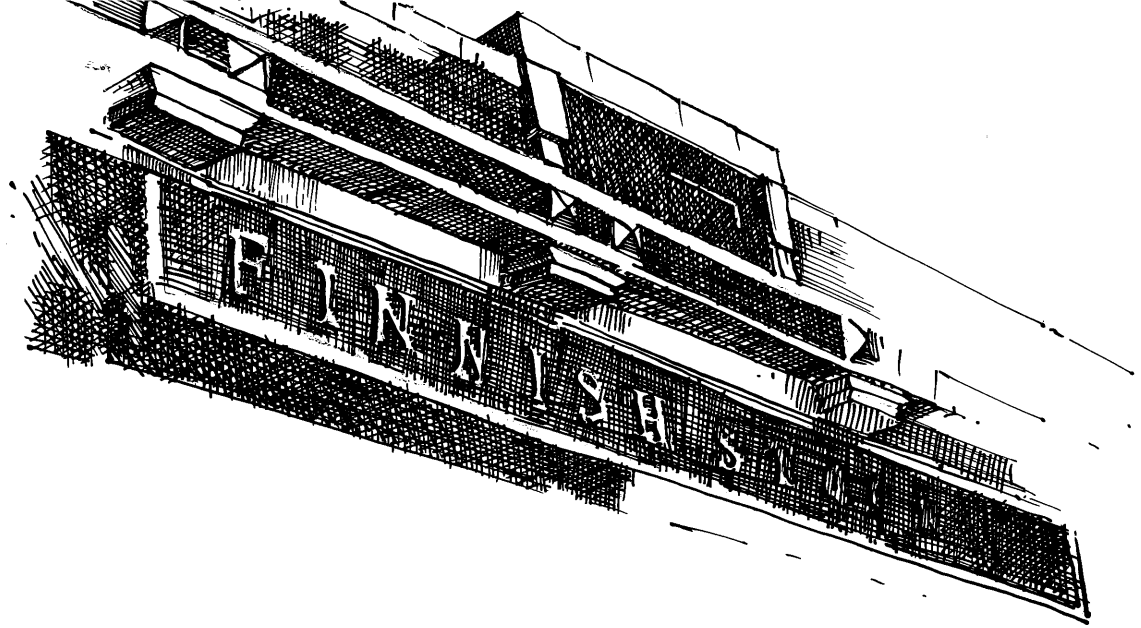
With the development of the Chandler Mine, houses sprang up in the present Ely site, and there a city grew. The ease of mining at the Chandler and Pioneer Mines attracted thousands of miners to the east end of the Vermilion. Austrians, Finns, and Eastern Europeans swarmed to the new town in the wilderness.

Ely soon rivalled the city of Tower as the largest community north of Duluth, and by 1895 boasted three good hotels, a newspaper, a busy railroad station, a hospital and a bank.

Birth statistics in Ely for the year 1895 were: 38 Finnish, 24 Austrians, 11 English, 13 Scandinavians, 7 of the United States, 5 Canadians, 3 Italians, 3 Germans, 1 Pole, 2 Irish. (It should be noted that all of the people from Central Europe—Slovenes, Croatians, Hungarians, and others—were referred to as Austrians during the early history of the Vermilion.)

Early Ely had a pioneer atmosphere; there were mud streets, saloons, false front shops, stores, hotels, gambling halls, Chinese laundries, greasy spoons, all fronted with hitching posts for horses.

Boarding house beds never cooled in the old days.



With day and night shifts at the mines, four men were assigned to one double bed, two by night and two by day. The practice presented problems on Sundays, but church services, card playing, drinking, writing letters home, and recreational parties helped the situation.

Medicine shows, travelling opera companies and evangelists provided some entertainment in the old days. The best known evangelist, Billy Sunday, once remarked, "the only difference between Ely and hell is that Ely has a railroad into it."

Mrs. Vida Squier James, the second school teacher, described her first day in Ely:

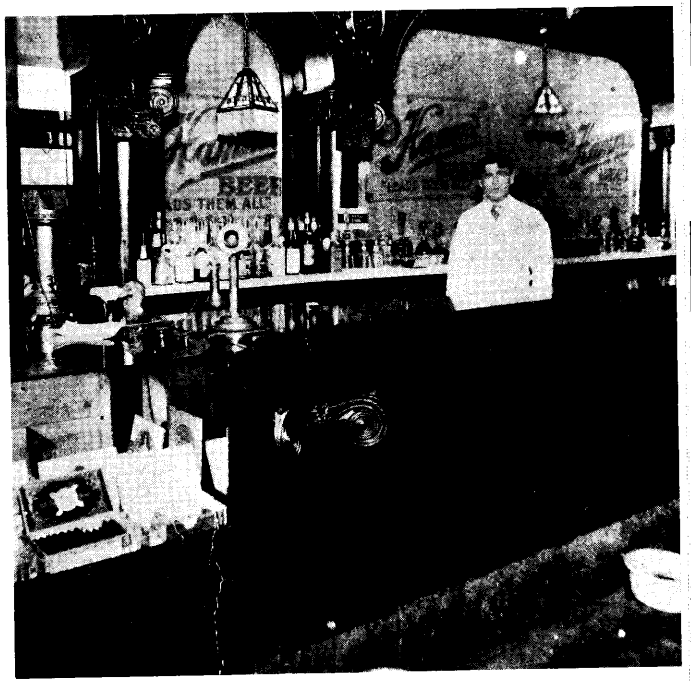
The next morning . . . I looked out the window. Such a contrast to what I had been used to greeted my eyes. Instead of rolling hills, cultivated farms, and beautiful maple trees, I saw log cabins, large boulders, winding paths, and a mining shaft appearing above the dark, pointed-topped pine trees. Paths led from house to house around stumps and large boulders. I knew I was at the end of the railroad, but I felt that I was at the end of the world.

On September 25, 1895, the Kickapoo Medicine Company opened a two-week engagement at the Opera House. The acts included: Tom Burns, famous burnt cork artist; Lee Mitchell, famous female impersonator; and Allen St. John, Irish comedian. According to the papers, the company *"is also spreading considerable medicine among the people."*

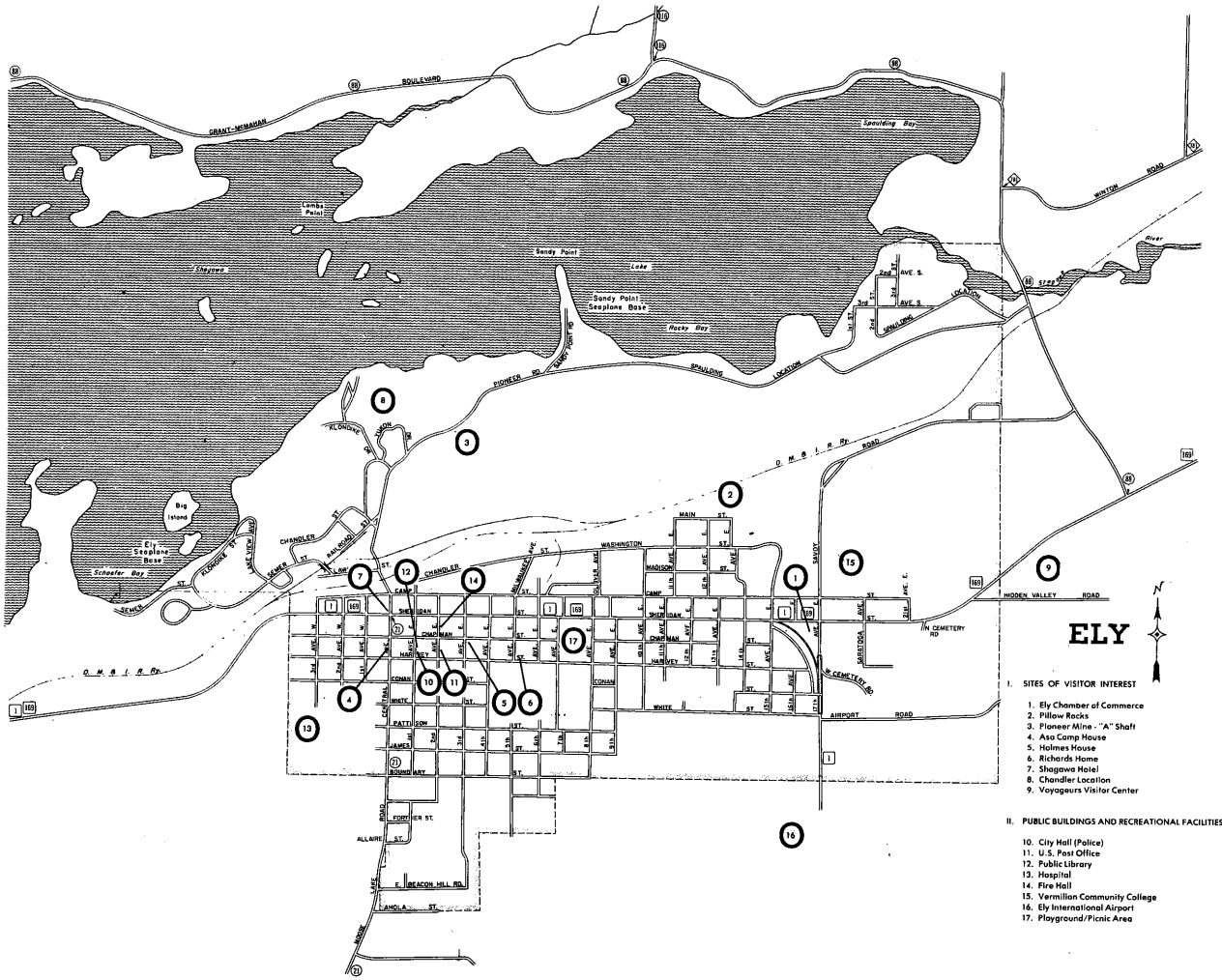
On February 22, 1900, the Ely-Finnish Stock Company announced it would open a general store in the Jacob Pete Building sometime next month.
But despite such *"civilizing"* influences, the truth remained that the miners of the east Vermilion found their work to be much more dangerous and arduous than that found at Soudan. Cave-ins were frequent, mines opened and closed without warning, and reluctant mining crews were driven hard by resolute captains.

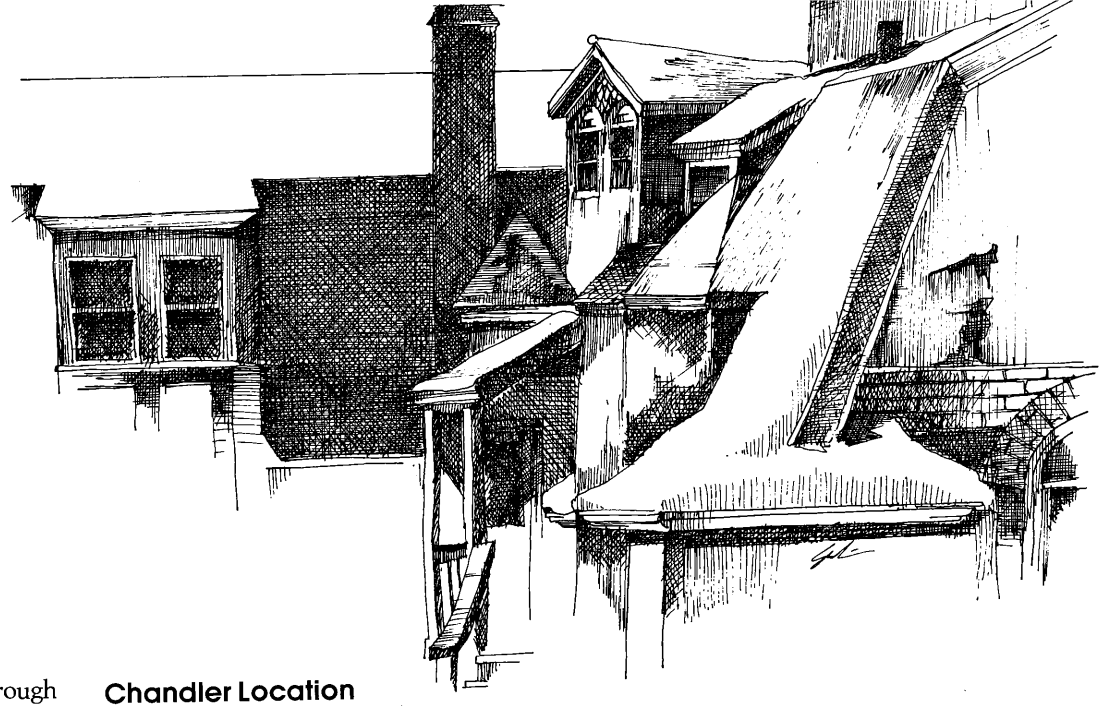
Many miners killed left no "old country" address (where relatives could be notified), and were buried in mining clothes in rough wooden coffins with wooden cross markers, the names obliterated over the years.

In those cases families left back in the old country may never have learned what happened to a brother or father or husband.



The Crossman Cafe and Saloon, Ely 1909


ELY
I. SITES OF VISITOR INTEREST
1. Ely Chamber of Commerce
2. Pillow Rocks
3. Pioneer Mine - "A" Shaft
4. Asa Camp House
5. Holmes House
6. Richards Home
7. Shagawa Hotel
8. Chandler Location
9. Voyageurs Visitor Center
II. PUBLIC BUILDINGS AND RECREATIONAL FACILITIES
10. City Hall (Police)
11. U.S. Post Office
12. Public Library
13. Hospital
14. Fire Hall
15. Vermilion Community College
16. Ely International Airport
17. Playground/Picnic Area
BOULEVARD
GRANT-NEMANAH
Sandy Point
Sandy Point Seaplane Base
Rocky Bay
Spaulding Location
WINTON ROAD
HIDDEN VALLEY ROAD
AIRPORT ROAD
CHANDLER
KLONDIKE
MAIN ST.
WASHINGTON
MADISON
CHAPMAN
HARVEY
CONAN
WHITE
PATTISON
JAMES
BOUNDARY
FOURTH ST.
ALLAIRE
BEACON HILL RD.
LANCLA
Big Island
Ely Seaplane Base
Schuster Bay
Lake
River
O M & I R Rr.
N. CEMETERY RD.
S. CEMETERY RD.



In January, 1904, three hundred Finns passed through the city one day, on their way back to Finland from the United States. They told the news correspondent that times were so hard in America that they preferred to take their chances in their native land.

Sites of historical interest in Ely:

Asa Camp's House—15 South Central Avenue

This was one of the first houses to be built in Ely. Camp was a mining man who came from Cornwall, England. He and James Sheridan discovered the Chandler Mine. He was an expert in mining and helped, also, in the opening of the Zenith and Sibley Mines. He lost the first election for village president to John Pengilly on June 21, 1888. Pengilly was a popular man and superintendent of the Chandler Mine, representing the mining company interests in the election. Camp represented the merchants of the city. The election was rumored to be an exciting contest, described by the paper of the time as run by both sides, the day of the election, with *"ingenious working and wire-pulling."* There had been no real contest up until election day, though, because Camp did not enter until the morning of the election. Camp's followers formed the Village Ticket to run against Pengilly's People's Ticket.

Chandler Location

The land under Chandler Location was owned by the fee owners of the Chandler Mine. When the mining company leased the land to mine, they gave permission to employees to build houses in the location so that it would be convenient to go to work. People who lived in the location owned their houses but not the land under them. They paid, instead, a nominal land rent, sometimes as little as twelve dollars a year. But they had no city water for years after the rest of the city of Ely, and used outside toilets. There was no order or system as people staked out their home sites. Today, the location is a cluster of houses on twisting streets running over very hilly terrain, amid many rock outcrops. There is a mix of the old and the new with houses seemingly set at random, and roads around and between!

The Asa Camp house

Ely Finnish Stock Company Building

In 1912, the Ely-Finnish Stock Company moved to its new store. It was a grocery store with foodstuffs, dry goods, clothes and other articles except meat. (Meat markets were separate because they had to have ice.) It raised its original capital by selling shares of stock, hence the name "Stock company."

The Shagawa Hotel (right)
The Holmes house (center)

The Richards home

Holmes House - 304 E. Chapman Street

Holmes was a contractor. To some people of the time a brick house was a status symbol; brick was also thought to be more fireproof, especially helpful in keeping fire from spreading from an adjoining building.

There was great danger of fires spreading from structure to structure, because water was pumped by steam and the fires were let down in the evening, so that there was often a delay in fighting fires, and they spread rapidly. Holmes was a fireman, which meant he was not only a member of a volunteer fire fighting company, but also of an elite and discriminating social club.

Richards Home - 507 E. Harvey

Ben Richards was the superintendent of the Zenith Mine. The house was built by the mining company for the residence of the superintendent. When the Zenith Mine closed, Mr. Richards purchased the house from the company. Company-built homes were not unusual in Ely. The Chandler had homes built for its superintendents. Oliver Mining Company (Pioneer, United States Steel) had houses for the chief electrician, chief clerk, assistant superintendent, and superintendent, in addition to houses for other company employees.

Pillow Rock Ellipsoidal Greenstone Outcrop between 12th and 13th Avenue East

Greenstone is the oldest rock in Minnesota and among the oldest rock in the world. Age estimates range from just over 2 billion years to 2.7 billion years old. It crops out on the hills and ridges around Ely and in several other locations, including the north side of the Mesabi Range. Ely Greenstone is a metamorphic rock, meaning that geologic forces have changed it from its original state. It is the shape of the rock that gives the major clue as to how the greenstone was first formed. This ellipsoidal or "pillowed" structure is a characteristic of lava flows that solidify under water. The greenstone first spewed forth onto the floor of an ancient Minnesota sea, the lava pouring out as part of one of the greatest periods of volcanism that the earth has known. The greenstone, through which the drifts and shafts of so many of the area mines run, is closely related to the iron formation. It was from the earlier lava flows that the iron and silica precipitated.

Shagawa Hotel - Sheridan Street

Originally Turf Hall, dances were held upstairs. Bergland's Store was in the lower portion. The building also served as the headquarters for the St. Louis County Fourth District and at one time was the Forest Service headquarters. It has been a coal company office, a saloon, and is still a liquor store and a hotel.

Shipman's Drug Dispensary
(James Drug Store today)

When Dr. Shipman first came to Ely, he had to walk into town; the railroad had not yet been extended into the city. It was about a five-mile walk from the end of the tracks.

He built the building that is now James Drug. He had a dispensary downstairs and a hospital and living quarters upstairs. He then built the Shipman Hospital on the site of the present clinic. Shipman's father was an architect, and the designer of the Wisconsin State Capitol as well as of the Shipman Hospital.

Finished in 1893, the hospital was affiliated with a small emergency hospital in Winton in 1897. Mr. James (James Drug) was in Ely on a trip from Pennsylvania and contracted typhoid fever. He lay down on a bench in the Exchange Hotel and passed out. All day people walked by and, being used to seeing drunks lying about, did nothing. Finally, Dr. Shipman came into the hotel and examined Mr. James and discovered that he had typhoid fever. He treated the fever and Mr. James recovered. Afterwards when Dr. Shipman learned that James was a druggist, he made him his partner. Later, James bought out Dr. Shipman's interest in the drugstore.

Ely today

Since its glory days as a mining center, Ely has become the Canoe Capital of America. With its proximity to the Boundary Waters Canoe Area, it hosts thousands of visitors who are seeking the solitude that this, the only lakeland wilderness in the U.S., offers.

Many of Ely's residents are employed by Reserve Mining Company in Babbitt and work in its taconite mining and processing operations.

Timber makes up Ely's third most important industry.

Ely has recreational activities for every age group and for every season. For example, in January Ely hosts the All-American Championship Sled Dog Races. Recreational activities include canoeing, camping, swimming, fishing, hunting, skiing (both downhill and cross country), and snowmobiling.

The U.S. Forest Service's Voyageur Visitor Center has many exhibits describing the history and environment of the region as well as an auditorium where regional films are shown.

Even if you've travelled the world, you haven't seen such a unique and beautiful outdoor recreational area as you'll find around Ely.

Section 30:

2,180 acres of claims and a quarter century of court battles

Section 30 townsite

In 1910, Section 30 was a thriving community, complete with miners' cottages, hotels, boarding houses, a hospital, dance hall, grocery store, theater, and pool hall. Oppel's Store, fore-runner of modern shopping centers, was famous throughout the area and did so well that eight clerks, a bookkeeper and two butchers were kept full time. Indians traded there, and silent movies drew rounds of applause from delighted spectators. It was a self-contained community, and during winter months, the only means of communication with the outside world was by dog team.

The Section 30 Mine, the only existing mine in Minnesota's Lake County, had its beginnings as far back as the 1860's when large amounts of "half-breed scrip" fell into the hands of speculators and promoters. The iron strikes at Soudan in the 1800s led to a long struggle for land control on the Vermilion Range, and Section 30 of Township 63, Range 11, became part of this struggle. While most of the Vermilion developed, Section 30 was locked in a long series of court battles to decide ownership of its ore bodies, discovered in 1885.

Litigation began on April 6, 1886, in the Duluth Land Office and was not finally concluded until January 30, 1902, in the United States Supreme Court. Of all the court battles for control of the iron lands in Minnesota, the battle over Section 30 was waged the longest and attracted the most attention. It was a classic example of how mineral lands in Minnesota were secured, and because these means were not always in complete accordance with the laws or even near to their spirit, cases such as this one resulted.

It was a tangle with claims based upon different laws for perfecting title to property. Frank Eaton and Leonidas Merritt formed one group of claimants; the other major group of claimants revolved around Thomas Hyde and Angus McDonald. During the controversy over Section 30, there were more than 31 different claims pending in the tract book at the Duluth Land Office. Although any "section" of land contains only 640 acres, Section 30 had claims upon it totaling 2,180 acres!

Frank Eaton filed on the land using Sioux half-breed scrip. Scrip was used by the United States Government to allow Indians to settle on tracts of land in return for their group giving over the rights of their lands to the government. It was not supposed to be used as a means for others to obtain title to land, but it was traded on the open market for many years, with

Section 30 miners, 1910

the Indians selling their scrip and accompanying powers of attorney. Often, as in this case, the original Indian holder of the scrip never saw the land in question.

Thomas W. Hyde and McDonald filed on the same land by means of pre-emption, describing the unsurveyed land and then homesteading on it. Hyde was not the only one with this idea; he reported that in 1895 there were twenty-two shanties on various parts of the land involved in the dispute. Hyde lost his claims because he inadvertently made a contract involving his claim, which was illegal under the law by which he claimed it. He had occupied and fought for the land for ten years before he was disallowed.

Eaton and Merritt eventually got title to about 320 acres in 1902, and in 1909, George A. St. Clair and Alfred Merritt managed to obtain a mining lease on the property. Merritt and St. Clair organized the Section 30 Mining Company in that same year, and began mining immediately.

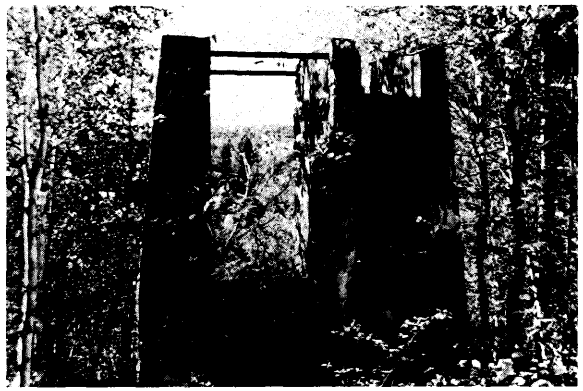
Methods were in the traditions of the times. An underground shaft was sunk, and skilled miners were hired to bring up the ore. They worked hand-pushed, two-ton cars, pushing them along a track to a chute where the ore would be dropped from the drift being worked to the main level below. As they tipped their ore, miners would call out their special numbers and a "tally boy" would mark it on a pegboard to compute their totals for the day.

Section 30 hardrock miners were paid sixty-five cents for each carload of ore they were able to drop into the chute. The ore was then hauled down a track to the shaft where it was "raised to grass" by a "skip." The skip would drop its ore into a *"loading pocket"* on the surface under which would be placed waiting ore cars.

When this man got killed, I was on the opposite shift from him, but I went up when the captain wanted us to drill the way he had him drill. I said something was going to fall, and it's going to come right on top. I went up and quit. And he was killed on the next shift. I left there and never went back. I said, "No, I don't do it that way! I'm putting my machine over here, and I'm going this way!"

(A Section 30 miner)

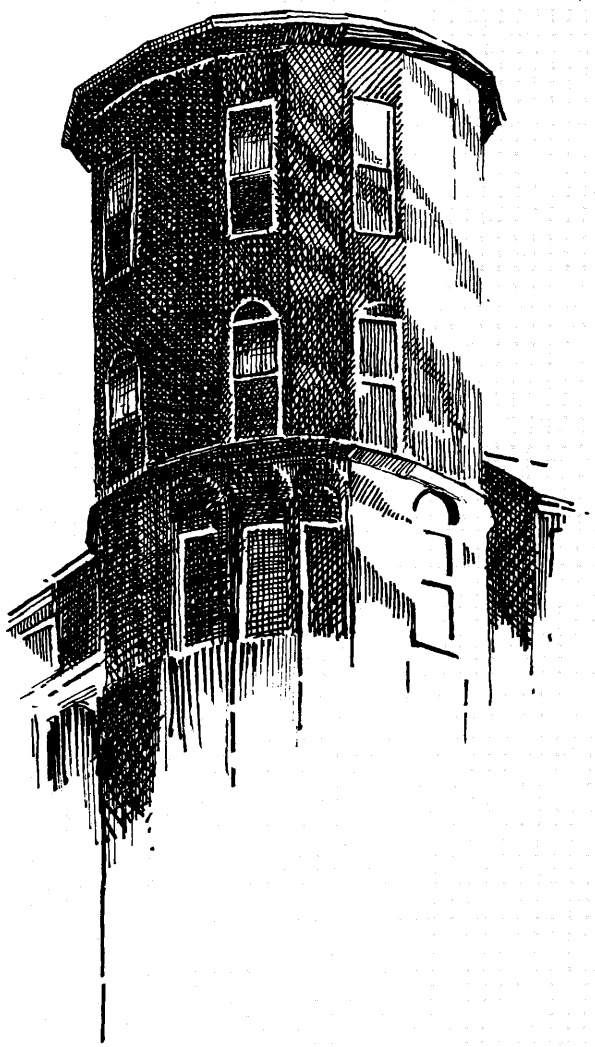
Open pits were blasted a few years later, and Vulcan steam shovels were used to scoop up broken chunks



of ore. But the ore in the pit was still hauled through a drift to the main shaft where it would be "skip hoisted" to the surface.

Section 30 flourished until 1923 when shipping rates forced the closing of the mine. Miners left the area so fast that the town was literally abandoned and for many years it was a ghost town comparable in appearance to Cripple Creek, Rockerville, or any other in the West.

Today the skeletons of these mining attempts stand amid tall pines and meadow grasses, still capturing the imaginations of the curious.



A great journey

He watched the gust of wind coming, following its course with his eyes. It filled the sails on the horizon, silently. As it continued toward shore, it blew the crests of the waves into a fine spray, marking its progress. It caused the loose sails of the anchored boats to flap and crackle. It blew along the shore, carrying bits of paper with it, and nearly stole his tam before he snapped out of his reverie and put his hand to his head.

The clouds, piling up in huge mounds, as if those in front moved too slowly for the angry rear-guard, served as a reminder of the recent rains, and an omen of weather to come. He felt exhilarated by the rawness.

A group of men hauled crates along the walkway, occasionally causing a dull clatter as a foot or wheel hit a loose plank. The smell of sea-salt mixed with the aroma of tobacco and the odor of the animals pulling their loads patiently, as if this were just another day.

Smiling, Anterro Tanner listened to two sailors exchanging insults, and then turned for perhaps the last time to the Finland he loved and must leave.

Most people have never heard of Tanner. Dr. Anterro Ferdinand Tanner—hired hand, clerk, apprentice to a shoemaker, military enthusiast, teacher, lecturer, physician, newspaper editor and owner, writer, publisher, builder, planner—a remarkable man. Perhaps his most outstanding attribute, and the one trait that stayed with him through each of his endeavors, was his love for new ideas.

But Dr. Tanner and his emphasis on enlightenment were anathema to a Finland intolerant of free-thinking individuals.

With Russia's February Manifesto of 1889, Finland's special status as a self-governing grand-duchy was negated. Russia claimed the power to make laws governing the Finnish people, and the right to conscript Finnish citizens into the Russian army. There were to be no more references to Finland on postal stamps. The people were alarmed by this Russification, fearful for the Finnish heritage, afraid of total domination.

A second pressure felt by Dr. Tanner and many other Finns was exerted by the church. Until 1889, everyone had been forced to join Finland's Lutheran State

Church. In 1889, legislation was passed permitting one to leave the State Church only to join other protestant denominations. These churches were powerful forces in the lives of individuals. For example, one could not marry without first being confirmed and then publishing marriage banns in the church. To obtain a passport, it was necessary to present a certificate of character received from the parish church. Many accepted or invited this control; others grew restive under the iron grip of the church.

Economic pressures were also great. In a time of strong class-consciousness, there seemed to be no ray of hope for the working man, who was expected to follow in his father's footsteps. While some accepted their positions in life and the deprivation that often accompanied those positions, others resented the lack of opportunity for change. The church criticized emphasis placed on material matters, and taught that hardships in this life must be accepted as the burden one must carry in order to insure one —self eternal happiness.

The stage was set.

Socialism grew in Finland in response to such political, religious and economic pressures. People feared the loss of individual choice and resented the strong control of the church. The labor groups felt that their growing needs were going unrecognized. Lastly, and perhaps most importantly, socialism grew in response to a desire for new ideas.

People wanted freedom to think.

Restless, feeling the need for a new direction, Tanner became interested in socialism while he was a student at Helsinki University. He was studying the natural sciences when he came under the tutelage of Matti Kurikka, and his views solidified. As he became more vocal and gained popularity, Tanner evoked increasingly more criticism from the church and government. When word of his activities reached the Russian rulers, he felt compelled to leave Finland. Anterro Tanner sailed for America, the "land of the free," in 1889, filled with bitterness and grief at the loss of his homeland, but nurturing hopes for a new and better world.

Upon arriving in Rockport, Massachusetts, Tanner encountered an old schoolmate, Pastor Airaksinen. Pleased with the reunion, this pastor of the local synod invited Tanner to present a series of lectures to the Finnish community of Rockport. He spoke on many topics, including the natural sciences, philosophy, and dream analysis. As Tanner's views emerged and he introduced his audience to the *"scandalous"* ideas of Darwinian Theory, Pastor Airaksinen became increasingly concerned and finally accused Tanner of being a socialist. This allegation was not denied by Tanner. Instead, he felt compelled to explain the beliefs of the socialists. Pastor Airaksinen, incensed, demanded that Tanner publicly reaffirm his faith, and tried to induce the congregation to close the doors of the hall to future socialist speakers.

Tanner refused to comply, saying:

In twentieth century America, the Land of Freedom, a Finnish clergyman dares to try to deny a university-trained man the right to speak and thus withholds from his congregation the light of higher learning.

The people also refused to comply, voting to admit socialist speakers in the future. Anterro Tanner, who had intended to continue his personal studies, thus was drawn into a new life.

Following this unintentional exposure, Tanner began

to speak at temperance halls throughout the area. He spoke on many topics, but always his enthusiasm for socialism and enlightenment were obvious. His audiences were quite receptive, particularly in Fitchburg, and often numbered two hundred or more.

Tanner reached many people who had not yet been introduced to the socialist idealogy.

When that speaker, that wonder of a man, A. F. Tanner—for that he was—had finished his speech, I stepped on the platform and acknowledged to the audience that I approved of Tanner's speech and socialism. But didn't that surprise the audience who, clasping their hands in disbelief, exclaimed, "Is Martin, too, a socialist?"

The deed was done. Fear, the fetters that bound me to the bourgeois world, was shattered. It was impossible to turn back.

(Martin Hendrickson)

In August of 1899, Tanner served as the catalyst in the formation of the Socialist-Democratic Myrsky Society in Rockport, Massachusetts. The original group included twenty members, all men. It is reputed to have been the first Finnish socialism society in the world. The conservative church-oriented papers strongly criticized this group, and Tanner himself, calling him the *"devil's disciple."*

At about this same time, Tanner, who was always concerned about the position of women in society, helped to bring about the organization of the Jyry Society—the first women's socialist group. Their leader was Emmy Parkkinen.

Most of Tanner's early followers agreed that societal conditions for the working man needed improvement. After a great deal of discussion it was decided that a newspaper would be the best way to bring about these changes.

Although now all of the others were of the opinion that improvements were necessary and that socialism was inevitable, and also that to promote it a newspaper was necessary and the working class itself must own it, when the question came up of only such a small sacrifice as a subscription of two dollars for a share in the newspaper . . . there was not anyone who would give his name to the list . . .

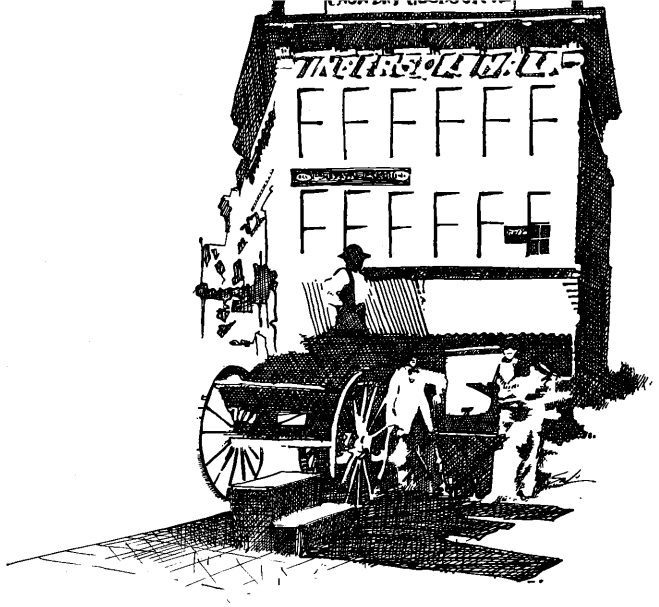
(Martin Hendrickson)

Because promises of financial support could not be extracted from society members, Tanner made a personal commitment to organize the paper, and Martin Hendrickson promised to find five hundred subscribers.

The **American Työmies** (American Worker) went into print in January, 1900, and was edited by Tanner and J. V. Lahde, from the international Socialist-democratic viewpoint.

We wanted to shout into everyone's ears that there is much in this world that is not as it should be.

It is true that subscriptions to the paper came slowly and since the small amount of resources had been expended getting the printing press, the lack of funds was always at our heels. Our living standards had been reduced almost unbelievably—you might say to the comforts of a tramp. But we did not permit the circumstances to depress us; in speeches and in writings we pictured that state of utopia for which, struggling with poverty, we were preparing all of humankind. In spirit we already were in that state of paradise and hope has an incredible power of keeping the spirit happy even in the difficult circumstances of life.



Sundays were great days for ideals. Then all day we thundered forth. We made speeches about socialism, we sang socialist songs; presentations were made in Brooklyn, a speech at a program in Harlem, discussions regarding socialism, and they continued from early morning until the wee hours of Sunday night.

Intensive feverish activity, as if eternal salvation had been in question, continued all winter in New York.

(A. F. Tanner)

In July, 1900, A. F. Tanner toured the Midwest, travelling through Ohio, Illinois, Michigan, Wisconsin and Minnesota, seeking subscriptions to the **American Työmies.**

Martin Hendrickson had visited many of the same spots just a few months earlier, meeting with less than friendly reception. In his memoirs he recalls having hot ashes spread over his *"hastily left"* footprints in order to ward off any evil spirits.

Although opposition was generally verbal, Tanner felt a need to be careful. In some cities, the police had been ordered to arrest any socialist organizers. Pastor Eloheimo, in Calumet, called Tanner the devil's disciple. In Ohio he was called a *"deceiver of his country, atheist, a propagator of wrong beliefs, anarchist."* And it was often difficult for Tanner to find places to eat, sleep and speak.

The reason, nevertheless, for the opposition I faced was not religion. I avoided discussion of church and clergy. The cause for the fury was opposition to new ideas. *(A. F. Tanner)*

Aside from seeking subscribers, Tanner was searching for a new home for the American Työmies. After choosing Minneapolis as the logical location and obtaining the agreement of the rest of the newspaper supporters, Tanner moved himself and his belongings to Minneapolis, by train. He had barely settled in when word reached him that the group of supporters had reconsidered and made a decision to end the newspaper, after just twenty-four issues.

. . . with bitterness I swallowed my comrades' reward, drawing aside to my own activities.

However, socialism was so much absorbed into my blood that it was impossible for me to remain completely silent. With a small but enthusiastic group, we spent Sundays passionately exploring the ideals of socialism . . . *(A. F. Tanner)*

Saddened and weary, Tanner continued his crusade through articles printed in other papers and discussions with small groups of acquaintances, and passed the time in Minneapolis studying at the University of Minnesota. There he passed the physician's exam, enabling him to practice medicine. From this point, his life took a new direction, and one that he would follow to some extent until his death.

Senja

Senja turned, now, for one final glance, critically straightening her hat and tucking in the wisp of hair that seemed always to escape. Turning to the lamp, she noticed the book she had finished the night before, and picking it up, blew out the flame of the lamp. After the last red spark had disappeared, she closed the door of the room behind her, and walked down the hall to join her friends. They would have to hurry. No one had come in on the last train, so the waitress had quickly closed up the hotel dining room, but they would still barely make the performance. The Vail Hotel was a good place to live and work, with lots of young company. Just sixteen years old,

The Ely Opera House

she was accustomed to hard work, but she looked forward to opportunities such as tonight, to hear speakers, enjoy music, and socialize with other young people. The girls' spirits were high as they emerged from the hotel. Stepping off the sidewalk, they raised their skirts in unison to avoid soiling them in the mud still lingering along the edges of the road. The slight chill in the air was invigorating, and their pace quickened as they headed for the temperance hall. Moisture shone in the air, forming an arc around the carbon lights outside. People were already entering. Programs at the "Opera House" always drew a good crowd.

Hurrying inside, she asked her friends to find a seat for her, and climbed the stairs to the balcony. Walking to the library in the back, she deposited the book, grateful for the access to such a large library.

Descending the stairs, she paused for a moment, watching the scene below. The people took on an unreal quality in the harsh electric lighting. She watched them enter and hurry past the box office into the main theatre. Some of them were acquaintances but most were still strangers. Suddenly she felt lonely. Ely was a friendly town, but she had been here only such a short time. She started down the stairs a second time, entering the theatre in search of her friends.

Just as she sat down, the lights dimmed, the curtains rippled on the stage, and lifted, and a woman took her seat at the piano. Another stood nearby. Venni Tanner! She sang a solo in a pure and simple voice, accompanied only by the notes of the piano. The audience listened attentively, enjoying the melody, and clapped in approval. Mrs. Tanner's face flushed with pleasure for such a warm reception.

Immediately after the opening solo, a small drama group took over the stage demanding the attention of the audience with a spirited portrayal of a young shopkeeper and his antagonists. She looked around her as the play ended. One by one the viewers returned to reality and it was obvious they had enjoyed the play as much as she had.

When the stage had been cleared, the announcer introduced Dr. Anterro Tanner, who was to speak to them about some of the chemical and physical wonders of the world. A short, slightly chunky man walked confidently to the lecturn. He wore black velvet knee pants, with bows at the sides, and a bright vest. A showman, he brought forth a simple glass jar, asking a member of the audience to check the substance in the jar and verify its identity. He waited as the man sniffed it, looked at it carefully, and finally even tasted it. "Water," came the verdict. Passing his hand over the jar, Dr. Tanner lit the substance and it burned brightly from the center of the jar, causing the audience to take a communal breath, holding it in suspense, and exhaling only as the fire diminished. Taking advantage of the awestruck audience, he went on to describe some real wonders of the world and to impress upon the listeners the continuing need for knowledge, for questions, investigation: the need to think. The audience sat silently for a moment, contemplating the information they had received, and then clapped enthusiastically. As each group walked toward the door, they discussed the possibilities for the true identity of the "burning water," but only the pharmacist knew it must have been potassium. They had heard the message. There would always be new ideas, new pieces of information, to examine. The burning water was but one.

Dr. Tanner brought his family to Ely in 1902, and in 1903 they bought two lots; they had come to make Ely their home. By the end of the year, an impressive new building could be seen in Ely, its circular tower

rising above the surrounding buildings, with "hospital" printed in large letters on the front.

The **Ely Miner** described the building as modern, with a complete lab and dispensary, and special attention paid to surgery. The interior was described as having been designed for convenience, light, and ventilation. It was steam heated, and electrical power and hot water, and could accommodate up to twenty patients comfortably.

Ida was only ten years old. Her hair dropped in soft ringlets around her face, accentuating big, questioning eyes. Her parents had explained why she was going to the doctor and she wasn't afraid. Walking to the hospital beside her father and mother, she felt quite safe, and proud of her bravery. As they turned the corner, she could see the hospital. She had seen it before, of course, but never had it looked quite so big. Pigeons flew around the tower as she mounted the entry steps, and she could hear their soft cooing. Inside the door she took a seat along the wall. Another patient was there, waiting, and holding his leg stiffly in front of him. He did not seem to be in pain and he greeted them as they entered. Ida looked secretively at him, trying to decide what was wrong with his foot. Just as he caught her eye and began to speak, Dr. Tanner entered the room and the man followed him through a doorway. Ida was left with nothing to do but examine the waiting room. She noticed the books right away. Shelves of them. A man must be awfully smart to have that many books.

When Dr. Tanner returned, he was alone and he wore a white apron. He spoke to Ida's parents for a moment and then asked Ida to follow him. She walked behind him up the curving stairway and down a long, narrow hall, into a room with a chair in the corner and a table in the center. She had not felt frightened before, but somehow now . . . she sat nervously in the chair. As Dr. Tanner washed his hands, he spoke gently to her, explaining what he was going to do. She watched him, noticing for the first time his rough, pock-marked complexion. He was nice, though, and talked to her as if she were an adult. She liked that. He lifted her onto the clean cloth. She began to smell a sweet odor, and breathing it into her lungs, she became dizzy. Looking up toward the ceiling, she watched the blades of a large wooden fan turn round and round, round and . . .

The fan blades followed her into sleep. She dreamed she was hanging onto them as tightly as she could, spinning around and around, trying not to fall. As she woke up, Dr. Tanner was still there and the fan still rotated, but she was safe on the table. Her throat hurt and she cried a little as he carried her up the stairs and set her on a fresh bed where she could look out the window and see all the way to the lake. Her throat still hurt but she was tired, and the reassuring cooing of the pigeons in the tower lulled her to sleep.

Ida's great grandfather had been a sailor in Finland, travelling to Norway and Sweden by ship. His son after him took to the sea. It is not surprising that Ida's father also chose to go to sea, but he chose as his destination that new and exciting country, America.

After working on the railroad being built to the west, he moved to Ely and went to work in the mines. He met his wife in Ely and Ida, the first of twelve children, was born a year later. The family lived in a house near the depot, across the tracks from town. They took in four boarders.

Ida's father, the organizer and part owner of the Finnish Stock Exchange, felt strongly about maintaining the Finnish language and heritage in his family. For this reason, after two years at Central School in Ely, Ida was sent to Suomi School in Hancock,

Ely, 1910

Michigan. She attended school there for two years, returning to Ely for grades five through twelve. She went on to attend the University of Minnesota, studying languages, and later received her teaching certificate from the Teacher's College in Duluth.

In the process of getting settled in Ely, his new home, and setting up a practice, Tanner began to see a need in Ely for a Finnish newspaper that would serve the needs of the working man. He was keeping close watch on the **Northerner,** which seemed to be dying. At about this same time, Martin Hendrickson arrived in Ely, bringing with him an offer for Tanner in connection with another newspaper. Martin Hendrickson stayed with Dr. Tanner for five days, speaking at the temperance hall to a group of 150 businessmen and clergymen.

While Hendrickson was in Ely, Tanner spoke to him about the possibility of starting a paper, and together they visited the office of the **Northerner.** After a consultation with the owner, they returned to the hospital to discuss the different alternatives. Hendrickson later returned to Duluth, only to find a letter waiting for him from the typesetter of the **Northerner,** assuring him of the availability of the paper. Upon reaching Ely for the second time, Hendrickson met with Tanner and Toivo Hiltunen, who presented a plan for a four-man publishing company including Tanner and Hendrickson. Hendrickson's responsibility would have been to find subscribers for the newspaper while on his speaking tours throughout the country. He declined, and left Ely, *"poorer by the price of his train ticket."* Tanner, however, did go on to produce a newspaper. In 1903, he printed the first copy of the **Aatteita,** which was printed in Finnish and catered to the needs of the working man.

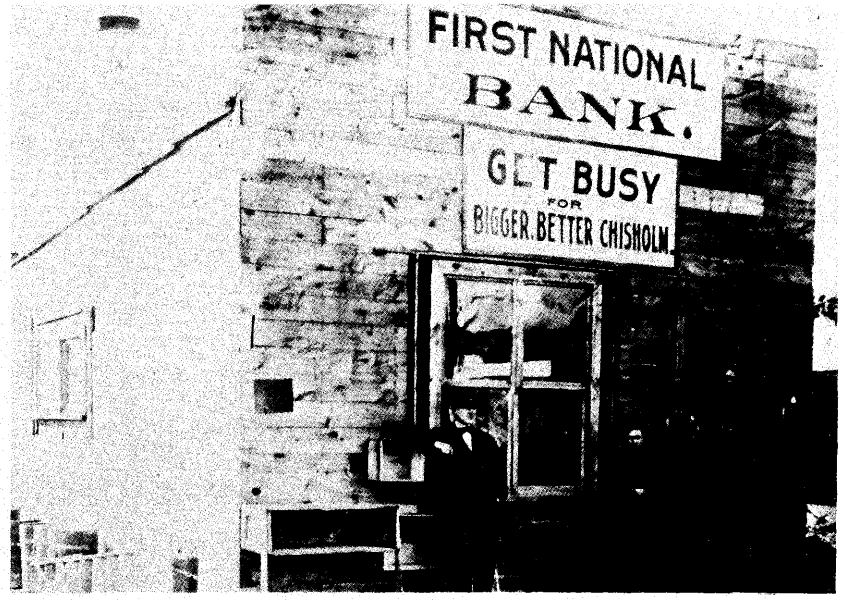
This paper lasted only three months. There are many conjectures as to the reason for its short life. First, Ely was basically a mining company town. At a time when jobs were difficult to find elsewhere in the country, people were hesitant to openly endorse anything preaching a socialist or labor viewpoint. Second, for the same reasons, and fearing boycott, businesses were hesitant to sustain the paper by placing advertisements in it. Third, the readers the **Aatteita** would have attracted were mostly in a low economic bracket and could not afford to pay very much for the privilege of reading it. Tanner returned once again to a full-time medical practice.

In 1904, Dr. Tanner helped to establish the Ely Imatra Society, and served as its treasurer for the first year. The original twenty-member group swelled to eighty-four by 1906, and provided many activities for its members. The dramatics group was particularly active, and performed often at the temperance hall

Bill was proud to be working at Miller's Store. He was only fourteen and already in charge of the stoves. He walked purposefully from the men's store to the women's, and finally to the general merchandise store in back, checking the fire in each stove, shining the front of one, and adjusting the dampers slightly. He liked the store, and enjoyed imagining that it was his: the bolts of cloth on the shelves, the ready-made aprons on the big round wheel, and the vast assortment of items in the grocery store.

Mr. Miller asked Bill to run a couple of errands, and Bill, eager to help, grabbed the packages and ran out the door. He liked to run errands because that gave him a chance to run into the livery stable and visit for a minute with Crossman's moose team. They were beginning to recognize him now, and seemed to anticipate the treat he always brought.

Heading down the hill, Bill caught sight of the hospital. Tanner was gone now, of course, but Bill



remembered accompanying his mother to the hospital many times when Dr. Tanner was treating her leg. "Milk leg," he had called it. Bill recalled the doctor putting a rubber stocking on her leg and telling her to stay in bed for a few weeks. His mother, with five children, had hardly been able to stay in bed for a few minutes.

As he passed the building, Bill smiled, remembering the story he had heard about Tanner, and picturing him working, red-faced, in the early hours of the morning, tearing out part of the outside wall of the hospital. Tanner had built a boat in the basement of the hospital, for use at his summer home on Shagawa Lake, and had miscalculated the size of the door opening. People had laughed about that incident for a long time.

Emerging from his daydreams, Bill once again picked up his pace, and headed for the depot. He was anxious to return to the store in time to keep the fires burning evenly. Tonight—a smile played on his face—tonight when trade had slackened, maybe he would be able to persuade Mr. Miller to tell another story about the medicine man.

Tanner returned to Finland after his years in Ely. The political situation had been greatly alleviated, and many Finnish immigrants returned to their homeland, either to visit or to live permanently. Dr. Tanner remained there for several years, directing his energies toward educating the public about marriage, birth control and related topics. He wrote many books on this subject while he was in Finland, one of which was banned and ordered destroyed by the governor-general. Tanner was fined five hundred marks. The book was later made legal, when the contents were more closely examined.

Tanner did continue his work in this country, however, as he had suggested he would, returning from Finland to the East Coast, and then to Chisholm, Minnesota, where he rented office space on First Avenue South and set up a medical practice. He also rented rooms above a store, and gave talks to groups of women on the subjects of marriage, birth control and sexuality.

Chisholm's Glass House

He opened the door slowly, and stepped out onto the worn wood of the porch. His hand held the railing loosely, as if he were happy it was there, ready, in case of need. As he gazed wearily up the street in the direction of town, he imagined each corner. One behind him, only ten more to go. Nine . . . eight . . . seven. His imagination carried him through the main street, nodding to the people he passed, and finally brought him to the object of his walk—the *"glass house."* People had laughed at the idea. He knew that. But he also knew it could be done. The sun could be made to heat a building effectively even in this northern land. They would not be laughing long. As he thought of the work ahead of him, he unconsciously straightened up. His hand left the railing, tentatively, reaching back momentarily to be sure it was still there.

The door opened again, sticking at first and then swinging freely, and he watched Ulla Maria as she stepped out. Arranging her cloak more snugly around herself, she picked up the chair, and together they descended the wooden steps, each maintaining a look of confidence, hiding the ever-present question: would they make it today? Would today be the day the façade must crumble?

Slowly, they stepped into the street and began the daily ritual. Smoke hung heavy from nearly every chimney now and the smells of fall were strong. Ulla Maria hugged her cloak a little closer to herself as she looked at the thick gray sky. The street was

damp from the rain during the night, and they had to skirt a brown puddle filling one whole side of the street. He breathed evenly, still, but his face was flushed from the exertion. The grays and muted colors of the day formed a perfect background for the bright stitching of his vest. He stopped as he adjusted his tam, and then walked on again. One block behind them, just ten to go. Nine . . . eight . . . In the middle of the next block, his breathing began to speed up and they stopped, he sitting in the chair that Ulla Maria had been carrying for him, and she leaning lightly on the back. Not far to go now, and the sky seemed to be brightening. The first few blocks were always the hardest.

A squirrel scrambled out to the end of a bare branch and scolded. Tanner stood up again, taking a breath and holding onto the back of the chair for an instant, hesitant to let go.

The main street of town was beginning to wake up, with wagons splashing through the puddles and leaving wet reminders of their wheels behind them. He waved and smiled, she nodding quietly, as they passed acquaintances, ignoring the concerned or curious looks. He didn't need to sit now, but merely to rest a moment, leaning on the back of the chair. They smiled, each now knowing that they would reach the glass house. As the foundation for his dream came into sight, the lines of weariness left his face. He stood straight and breathed evenly as he went to consult the mason. He knew it could be done. With the correct placement and angle to the windows, his hospital would be kept warm at least partly by the rays of the sun.

As the sureness shone in his eyes and he spoke confidently with the workmen, Ulla Maria set the chair under the tree.

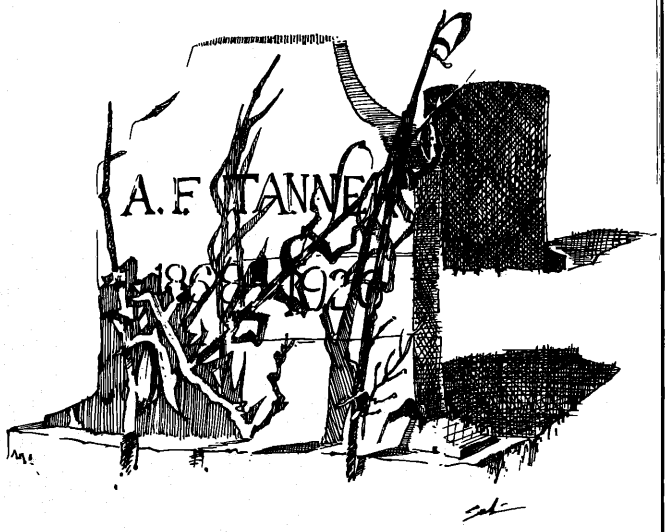
Taking out the mending she had brought, her expression was placid as she watched him, thinking her own hidden thoughts.

The hospital was never completed. Dr. Anterro Ferdinand Tanner, born May 6, 1868, died of pneumonia November 27, 1920, in Chisholm, Minnesota.

While living in Chisholm, he and his nurse, Ulla Maria, took in a foster baby and raised it as their own. When Tanner died, (Ulla Maria returned to the East Coast with the little girl, but several years later, their ashes were brought to Chisholm to be buried with him on his plot at the Chisholm cemetery.

When will that time come when we will be pleased to greet new thinking with reason?

A. F. Tanner



A wealth of wood

The Logging Era in Minnesota

The "endless" virgin forests of Pennsylvania, Ohio, Indiana, Michigan and Wisconsin had, after all, ended. But in Minnesota—here were **really** endless supplies of white pine forests, stretching away, away as far as the eye could travel!

Steadily, relentlessly pressing westward, the logging companies came to Minnesota; by the 1820s, they were cutting at the Rum and Mississippi Rivers. By the 1880s they had moved into northeastern Minnesota. Here was wealth! Animals, men, and machinery could work together for a hundred years to send the awesome sawlogs to the mills. Here were the building joists, beams, and siding for settlers coming directly behind!

The government owned plenty of land, heavily timbered with virgin white and Norway pine. Often, after it was surveyed, it was offered for sale for one dollar and twenty-five cents per acre.

And then the Homestead Act, which was not designed for lumber companies but was often misused by them, gave a person 160 acres free after he had lived on it and made improvements for 5 years. However, after 6 to 14 months, it, too, could be sold for one dollar and twenty-five cents an acre, and so lumber companies often hired people to "homestead" for them.

One of the requirements for improving the homestead was to build a "10-by-12" cabin on the land. The regulation did not specify "10-by-12 **feet**," so some built 10-by-12-**inch** cabins and then returned to the land office to announce that they had built their cabins and would like their homestead deeds!

Howe Lumber Company; Alger-Smith Lumber Company; Cook and Ketchum; Trout Lake; Vermilion; Pike Bay; Virginia and Rainy Lake Lumber Company: these names stand out in the history of that scramble for the titles to the timberlands. The men who formed these companies and became directors had usually been the ones who had amassed the largest tracts of land.

Once the timberlands were secured for cutting, wilderness camps were set up and supplied. Loggers were hired to cut the great pines, and heave and winch the tremendous bulk of the logs onto riverbank landings, sleighs, or railroad cars, for the trip to the sawmills. There the logs would be sawn, planed, shipped to markets, and entered into the company accounts.

The loggers themselves would work through bitter winter weather and through sloppy, muddy springs with swarms of mosquitoes and gnats, to cut the trees and get them to market. For such heroics, they would receive about thirty dollars pay per month, a blanket, some muscle liniment or lice medicine, and a colorful place in the folk history of northern Minnesota.

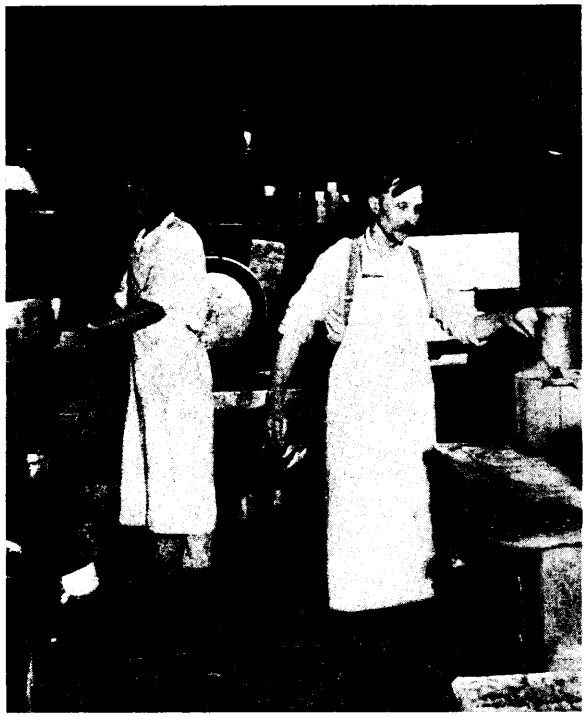
Setting up camp for the loggers

From September through November, tote teams carried supplies into the logging campsite over roads that had been built through the deep woods by "swampers." In November the loggers began to trickle in.

What the earliest loggers found upon arrival was a long, low, one-room cabin, with few, if any, windows. The spaces between the logs were chinked with clay or swamp moss and the logs themselves were pegged together; no nails were used. The roof was made of poles covered with hay and earth, the floor of logs split in half, with the top smoothed with an adze. The cabin was divided in the middle by a big open fireplace.

This was later replaced by a cookstove, or, better,

A log marker (below). *These markers were used by logging companies to identify their logs at the end of a river drive much in the same way ranchers used brands to identify their cattle.*
(bottom) *The cook and cookee in a northern Minnesota logging camp kitchen*



a separate shantyhouse for cooking and eating. It was here that the cook prepared the meals; bread or biscuits, salt pork, blackstrap molasses, and beans were the usual fare. Venison, fish, fowl, mince and apple pie were sometimes added, and tea was the usual beverage, brought in in sixty- to eighty-pound cartons. There would be three meals served per day, once the loggers arrived, with early morning breakfast at four-thirty, and dinner at dark, with the noon dinner brought to the cutting site on a sled.

The dining room had rows of trestle tables, and the bunkhouse rows of beds built into the walls. If the loggers were lucky, the bunks were made of cedar; this helped to discourage lice and other camp pests.

A Logger's Day

A lumberjack or shantyman's day began at 4:30 in the morning and ended at dark, six days a week.

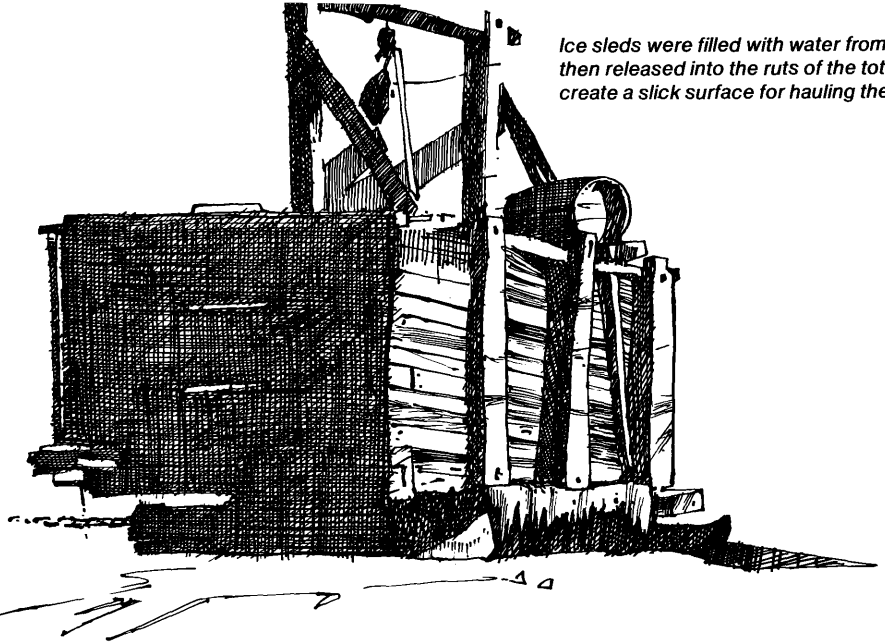
In the early days of logging, a usual crew was made up of 12-14 men and 6-8 oxen. There were 2 choppers, sled tenders, barkers, sawyers, 2 or 3 swampers and one cook and teamster. A crew of such size was expected to cut about 1,000,000 board feet in a winter.

By 5:00 in the morning the choppers were at work, felling the pines with axes. It was a precision job; the trees should fall parallel to the road with enough room for the oxen. The swamper would cut the branches from the tree, and the barker would remove the bark from the underside so it would slide more easily when the oxen pulled it across the snow. The chainer would fasten the tree to a "go-devil," a wishbone-shaped crotch of a tree with a cross-bar upon which the tree rested. The teamster would drive the logs down to the river landing.

Logging operations were dependent upon adequate snowfall for the oxen to pull the trees to the river or stream. The animals were so important to the logging operation that a blacksmith, too, held a special place. Shoeing the animals and keeping the harnesses in working order was a full-time job.

At the landing, the sawyers would cut the trees into 12- 20-foot lengths, and then leave them on the river banks until the spring thaw.

Soon, the size of the crew was expanded to 30 or 40 men and 20 or 30 oxen and horses. The crosscut saw replaced the ax, and two men, one on each side, could cut much more. Sleds were introduced which



Ice sleds were filled with water from the lakes which was then released into the ruts of the tote roads to freeze and create a slick surface for hauling the cut logs.

could haul larger loads. The decker, or rigging gang, which loaded the sleds, had one of the most precarious jobs, piling logs 10- 12 feet high onto the sleds.

"Road monkeys" maintained the hauling roads, which became longer and longer as the companies pushed further inland from the rivers for their timber. These road monkeys hauled water from the rivers and sprinkled it into the sled ruts in the roads, to freeze. Horses replaced oxen as these ice roads came into use; horses could carry larger loads of logs and they were more fleet-footed.

The centers of the roads where the horses walked were not iced, and even the ruts were strewn with hay on hills so that the heavy loads would not gain speed and crush the animals.

Sunday at last

Sunday was laundry day for the lumberjacks. Laundry was boiled up like a fish chowder, and each logger had his own section of wire strung above the stove for hanging up his clean mittens, hat and shirt.

The loggers could buy tobacco, sewing thread and buttons, writing paper and stamps, muscle liniment and cough syrup at the company van (store/office) open only on Sundays.

After Sunday dinner, the woodsmen played cards or competed in the telling of tall tales. A fiddler or harmonica player among the group was prized, and was always coaxed to play for singing or stag dances.

Cutting operations always ended in March or April; the men collected their pay—usually from twenty to seventy dollars a month, depending upon what their positions had been. Often they went to the nearest town and spent all their money.

Some of the men, however, stayed to become "river pigs," the men who drove the logs down the river.

Moving the logs

To get the logs to the waterways, the St. Croix Lumber Company positioned a steam engine on half-tracks with front runners; a pilot sat over the runners to steer. This was a predecessor of modern tracked vehicles, and could pull ten to twelve sleighs of logs to the frozen lakes and rivers, where the logs were rolled out onto the ice.

The Minnesota Forest History Center:

Grand Rapids, Minnesota

administered by the Minnesota Historical Society

At this new, modern interpretive center, the story of Minnesota's forests unfolds through a variety of dramatic exhibits.

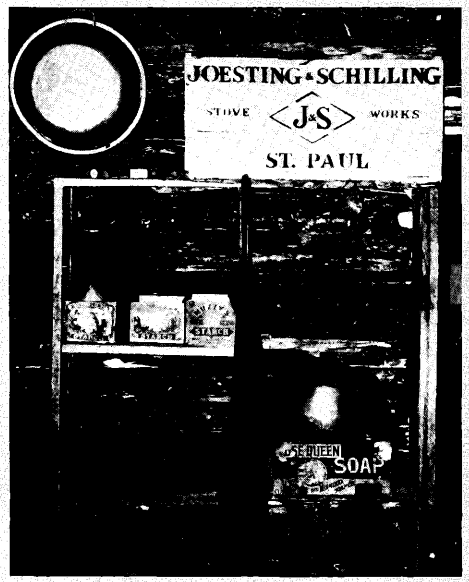
DIRECTIONS: Turn west off Highway 169 south onto County Road 23 and follow 1.7 miles to County Road 26. Turn right and go 0.2 miles. Turn right at sign onto the center's grounds.

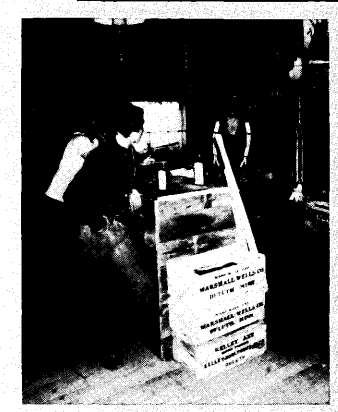
The Forest and the Indians

Exhibits show how the Indian used the trees for his home, his canoe, the roots for sewing and the sap for sugar. Early explorers and fur traders, through their journals and diaries, describe the primeval forests as they saw them two to three hundred years ago. Exhibits combining artifacts, graphics, and sound tell of the arrival of the lumbermen and the logging of the pineries of Minnesota. You'll see that the lumberjacks really were not like the ficticious stories of Paul Bunyan, but ordinary men who cut wood in northern Minnesota from one season to a lifetime.

The Forest and the Logger

In a bustling northwoods logging camp complete with costumed lumberjacks, you'll see the camp cook working over a wood-burning range making hot sinkers (commonly called biscuits) in the cook camp. While working, he will relate how he and his crew of cookees prepare the lumberjacks' breakfast





of baked beans, flapjacks, biscuits and coffee. He will emphasize that at all times he is the supreme authority in the kitchen! You'll have the chance to see where his men sleep, and view the storerooms and root cellar. Stop and chat with the blacksmith as he works over the red hot forge, or listen to the saw filer as he shows his guests how he must sharpen the camp's huge crosscut saws from early each morning until late at night so the crews can continue the daily cutting. A lumberjack stricken with *"blanket fever"* (a desire not to work that day) will entertain you with stories of his prowess in the woods and of life in the camps. You may get a chance to see a team of horses skidding a fallen log to the skidway, or board a wanigan moored by the river's edge and learn from a river pig (log driver) how the cut logs were driven on the wild spring rivers from the landings to the sawmills many miles downstream!

The Forest and the Settler

A Finnish farmstead from the 1920's, complete with cabin, sauna, field crops, livestock and outbuildings, shows how early settlers lived and worked in northern Minnesota. Inside the farm cabin a costumed housewife will introduce her guests to Finnish cooking and household crafts while the men of the family construct a traditional-style barn, fencing, and farm buildings.

Homesteaders and settlers came to this country to build a life from the cut-over lands. Relive their hardships and failures as well as their successes, from the disastrous fires that swept the northern forests, to the beginning of the early conservation movements within the state, and the eventual evolution of the Minnesota Forestry Service, the Department of Natural Resources. This represents a slow but steady change of view from believing the forests an inexhaustible supply of wood to thinking of them as a renewable resource.

The Forest of Today and Tomorrow

By walking under stately pines along the nature trails, you can visualize how the pineries looked to the lumbermen and loggers in the early 1800's. From the awesome pine stands, walk through the second-growth area, a new forest that dramatizes the changes which confronted Minnesota in a relatively few years. Smaller trails lead through cedar and tamarack swamps to provide glimpses of these delicate environments, and through open fields where a reforestation project is taking place, emphasizing modern replanting techniques. Visit a 1930's Minnesota Forest Service cabin and fire tower to learn first-hand from a guide how and why the conservation movement grew within the state.

(top right) *A log jam on a northern Minnesota river*
(top) *"River pigs" on the logs*
(bottom) *Spiked or caulked boots*

The river drive

When the ice broke up and the rivers began to rise, the logs which had been piled up on the banks were swept off into the water; the drive was on!

Guiding the logs down the rivers during the spring flood stage was the hardest and most dangerous job and it paid the most money.

There were rapids and dangerous areas where a slip into the water could mean death. The men who worked on this operation had to be agile and tough. They were almost continually wet and cold. A "wanigan," or floating bunkhouse and cook shanty, followed them, serving four meals per day, starting with breakfast at four-thirty in the morning and ending with a late dinner at nine o'clock in the evening.

Tools of the trade were caulked or spiked boots to help the river pig stand on his floating logs, and peavey poles to maneuver the tumbling, rolling logs.

Where streams and rivers were too low for the logs to float through, dams were built to store water from the spring melt and rain. These reservoirs were released when needed to help logs through low water.

When there were log jams, a concentrated effort was required to find and loosen the key logs, which were "jammed" into the riverbed and holding back the whole mass of logs behind—millions of pounds of pressure! If the key log could not be reached, dynamite might loosen the jam.

Rafts of logs were towed down the lakes by a side-paddlewheel scow if the current wasn't strong enough. The scow, a moveable platform for a steam winch, would be positioned about a half-mile from the raft of logs, where it would anchor and pull the raft up to it. This "Bull of the Woods" would then be moved another half-mile to repeat the process.

Northern Minnesota's last log drive was in 1936 on the Big Fork River, north of Hibbing, Minnesota.

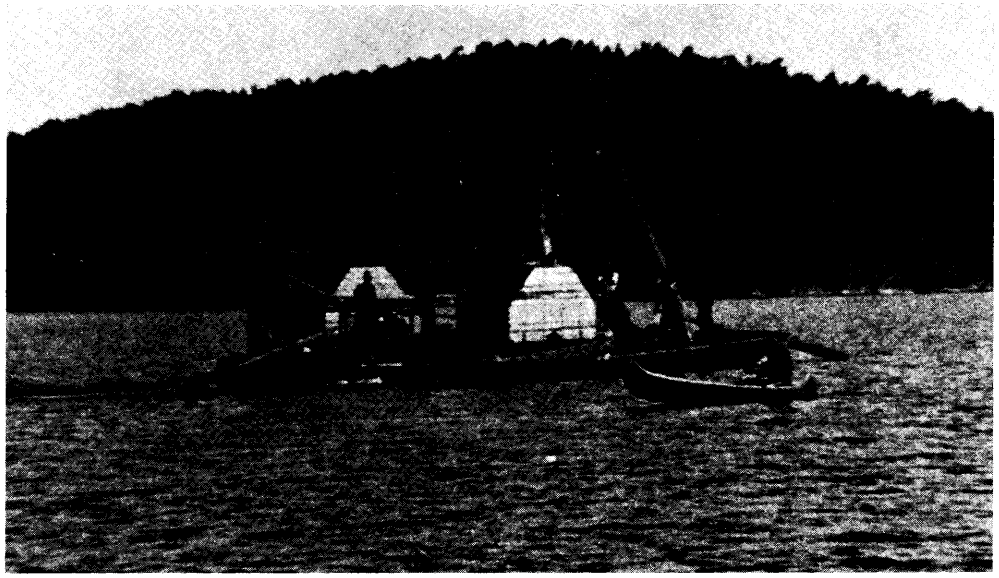
The Boats

An old passenger and patrol boat from the Duluth Harbor, the tug **Erma D.** was hauled on a flat car to Lake Vermilion. Sixty feet long, drawing eight feet of water, the **Erma D.** would now pull rafts of logs across the large lakes to the sawmills.

The first captian did not know the channels of the lake, and on his last trip he hit a rock and had to

Typical steamboat that moved logs on the inland lakes.

A "Bull-of-the-Woods"



fill the bottom of the boat with cement to keep it from sinking. He left his raft of logs against one of the shores of the lake.

You put a raft of logs against a shore or an island, when the wind is blowing toward it, and the pressure on the outside boom sticks will cause the timber inside the raft to jump the boom sticks. You come back in an hour or so and your raft is empty. They fired the guy!

Walter "Buck" Holter was offered the job; he knew the lake. His boss said, *"Just steer the boat so you don't get on the rocks."* And Buck found himself captain of the **Erma D.** He was 18 years old. The pay was 80 dollars per month and the work was 24 hours a day when towing. He hauled rafts of pulp logs and ties from Wolf Bay to Tower, where the timber was lifted by a hoist out of the lake. The engineers of the tug was a French-Canadian who taught the young captain what he needed to know.

I had to take a course behind a bunch of islands because the wind would have blown the raft on the south shore of the lake, and when it does that, you can't pull it. This was a new channel. I was standing up in front of the steamer. You only go about two miles an hour if you go that fast. I happened to look down and saw bottom. I rang stop and I rang four bells quick to back up! I could hear the engineer swearing right through the partition. He backed up and we shortened up the two lines and we started pulling on the raft and we kept it off that island. There were no markers in Lake Vermilion, not even one.

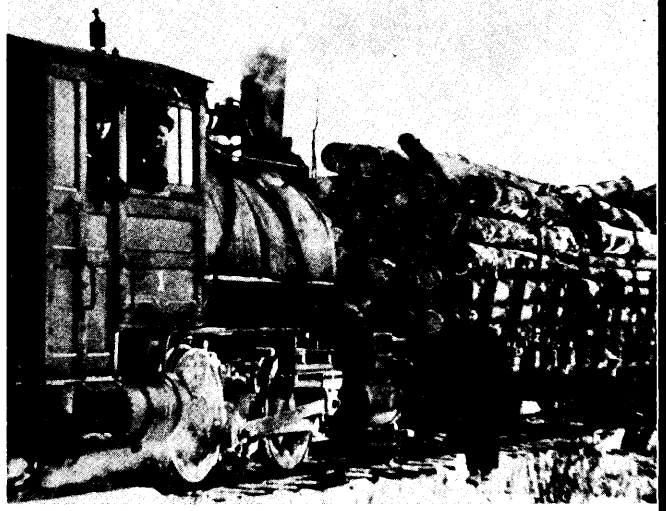
At the end of her final season, the crew ran the **Erma D.** up into the swamp by Vermilion Dam; there was no other place to moor the tug. The propeller and shaft lay in the mud years after the hull had rotted and fallen apart.

The **City of Holland,** the largest steamer on the lake, sank out about one hundred feet from the dock of the box plant.

The **Oddfellow** sank near Hoodoo Point.

The logging railroads

Going from Grand Marais to Devil's Track Lake, I soon came upon an obvious old railroad bed. This became more and more apparent as I came upon old spurs going off to nowhere, and ties rotting in the sun.



In the earliest days of logging in Minnesota, timber was cut only along the banks of streams and lakes, water serving as the only means of transportation to the sawmills. Even from the mills, the finished products were often sent by water to markets.

But the rivers were wild and unpredictable; logs were chewed into pulpwood by the rapids. River pigs lost their lives trying to work loose a log jam. And in dry years, the mills would stand empty and inoperative for months. The very size of the region and the rocky, hilly terrain made river drives unsatisfactory. And as the timber along the waterways was depleted, the river drives and rafting of logs with tugs had to be discarded. The timber companies were moving inland.

Now sleighs drawn by oxen or horses would bring the logs to railroad spurs, from where the logs were railed to the mills. Railroads, which in other logging states served as merely an extra measure, in Minnesota became absolutely indispensable on a tremendous scale.

By the turn of the century, there were 2,500 miles of logging railroad lines, with over 3,000 cars and 200 locomotives! "For a brief period in our history, the railroad was king and the steam engine reigned supreme in the imagination and folklore" of the region.

Soon even the big iron ore lines were attaching logging cars; the Duluth and Iron Range Railroad and the Duluth Missabe and Northern both provided access to new logging areas for the other smaller lines.

There was usually even a passenger car hooked to the trains; passengers ranged from settlers living along the lines to lumberjacks coming and going from Duluth to the woods.

Frequent "specials" were part of the passenger services provided; a *"blueberry special"* on summer Sundays took passengers into the woods for picnicing and berrying, with the last train scheduled through in the evening picking up the merry-makers!

By 1938, however, the end of two eras was rapidly approaching: the "endless" white pine forests of Minnesota had, in fact, ended—and the railroad lines that had served the logging companies and hastened the depletion of the pineries were thus past their economic usefulness.

One after another, the small railroads abandoned their lines and took up their tracks.

A few spurs would still operate to haul pulp wood (eight-foot "sticks" of second-growth timber) to the paper and box products plants.

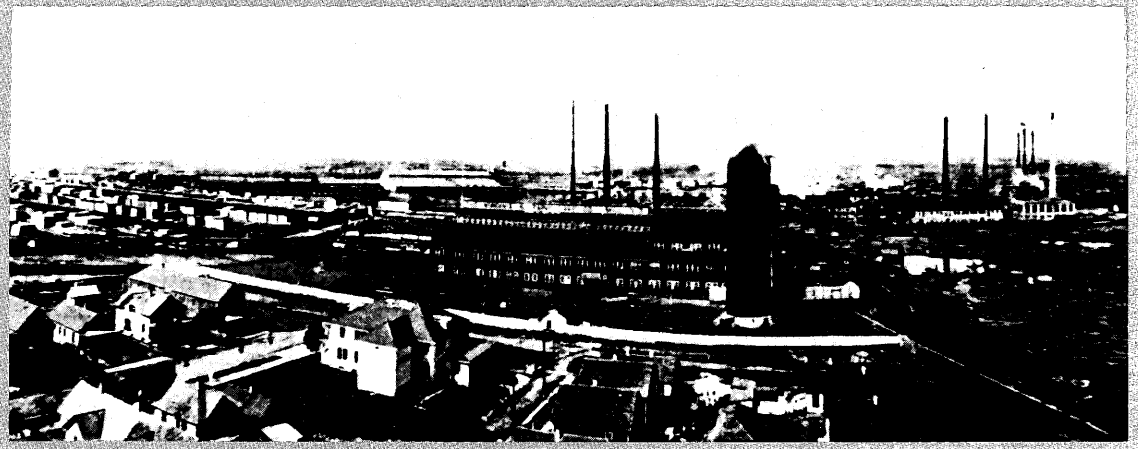
But the glory days of the big steel and oak "roads" were over.

The lumber companies were heading west again. In less than fifty years, they had reduced the Great Northern Forest to slash piles, and second growth trees: aspen, balsam, jack pine.

Still, with modern management techniques employed by private companies as well as by the Minnesota Department of Natural Resources and the United States Forest Service, these second-growth woods in the six-county area of northeastern Minnesota sustain an average annual yield of 426 million board feet of wood. This figure is a rough estimate of all forest products, including sawlogs, pulpwood, cordage, veneer logs, posts, poles, pilings, railroad ties, as well as fuelwood and Christmas trees and wreaths.

Even wood shavings are now being "pressed into service," with heat treatment and glues, to form insulation board products.

Logging continues to be one of northeastern Minnesota's prime industries, even if the colorful logging camps and folk heroes with their crosscut saws have been replaced by chainsaws and hydraulic shears.



The largest White Pine Sawmill in the World!

The Virginia and Rainy Lake Company

With timber surveyors (cruisers), loggers, and speculators taking advantage of their rights to file claims on Minnesota's timbered lands, *"claim jumping"* was as rampant here as it was in the Colorado gold fields.

There is a story that a man named Phillips bitterly resented one W. H. Cook's efforts to best him in the matter of claiming title to the most timberland. Phillips got an angry mob together in the village of Tower one morning for the purpose of lynching Cook, but Cook, who had been forewarned, made his escape up the railroad tracks to the depot and hopped onto a baggage car of the morning train just pulling away from the station. He made his way to Virginia, Minnesota, where he helped organize the Virginia and Rainy Lake Company which would quickly become the largest white pine logging operation and sawmill in the world.

Located in Virginia, Minnesota, the company produced more than 2 billion board feet of lumber in its twenty years of operation.

At its peak, the company owned fourteen locomotives, 345 flat cars, a plow, log loaders, a steam shovel, fifteen hand cars, a refrigerator car and hundreds of horses.

On its main rail line, the company built Cusson, a complete town with shops, houses, offices, boarding houses, store, a school and even a theater.

As the largest white pine sawmill in the world, its eight band saws, three horizontal resaws and one gangsaw spewed out 500,000 feet of boards every twenty hours. It planed 250,000 board feet of lumber and 600,000 board feet of lathe per day. It operated four drying kilns around the clock.

From 1910 to 1929 (when it closed), the company annually employed between 1,700 and 2,500 men.

No one has reported how Mr. Phillips felt about this decidedly successful effort to best him.

Vermilion Range towns and cities at a glance

Ely

Ely at a glance

For general information:
Chamber of Commerce, Highway 169 & 1, Ely, 55731, 218/365-6123
City Hall — 365-3224
Emergency services:
Hospital — Ely-Bloomenson, 365-3271
Clinic — Ely Medical Center, 365-3151
Ambulance — 365-3271
Police — 365-3222
Fire — 365-3000
Other agencies and services:
State Fish and Game — 365-3230
U.S. Forest Service — 365-3158
Senior citizens drop in center:
Pensioner's Room in the Ely Community Building for men only.
Sports facilities open to the public:
* 9 hole Golf Course on Highway 21 So.
* Tennis courts at Vermilion Community College
* Ice Skating at Vermilion Community College
* Hidden Valley Downhill and Cross Country Ski Area

Visitor attractions:
* Voyageurs Visitor Center
* Pioneer Mine Shaft and Headframe
* Chamber of Commerce building (log structure)
* Vermilion Community College
* Pillow Rock

Special events:
* Mid January — All American Championship Sled Dog Races
* July/August — Each Wednesday night at 8:00 P.M., Northwoods Nights

Tower-Soudan

Tower-Soudan at a glance

For general information:
City Hall, 55790 - 753-4070
Emergency services:
Hospital — Ely-Bloomenson, 1—365-3271
Ambulance — 1—365-3271
Police — 753-4210
Fire — 753-4005
Senior citizens drop in center:
None
Sports facilities open to the public:
* Hoodoo Point, Tower — swimming, fishing, camping, picnicing, boat access
* McKinley Park, Soudan — swimming, camping, fishing, boat access

Visitor attractions:
* Tower Soudan State Park
* Tower Soudan Historical Museum, Tower
* McKinley Monument — east end of Tower
* Pike River Fish Hatchery
* Winston City Historical Marker

Winton

The first residents of the present Winton location were the Bois Forte band of Ojibwa. Small bands of family groups were located on Fall Lake and other lakes to the north. They were to find themselves either displaced or absorbed because of the obvious virtues of the area.

The peninsula was a lumberman's dream: a lake seven miles long, surrounded by timber. The two rivers leading to it, the Shagawa and the Kawishiwa,

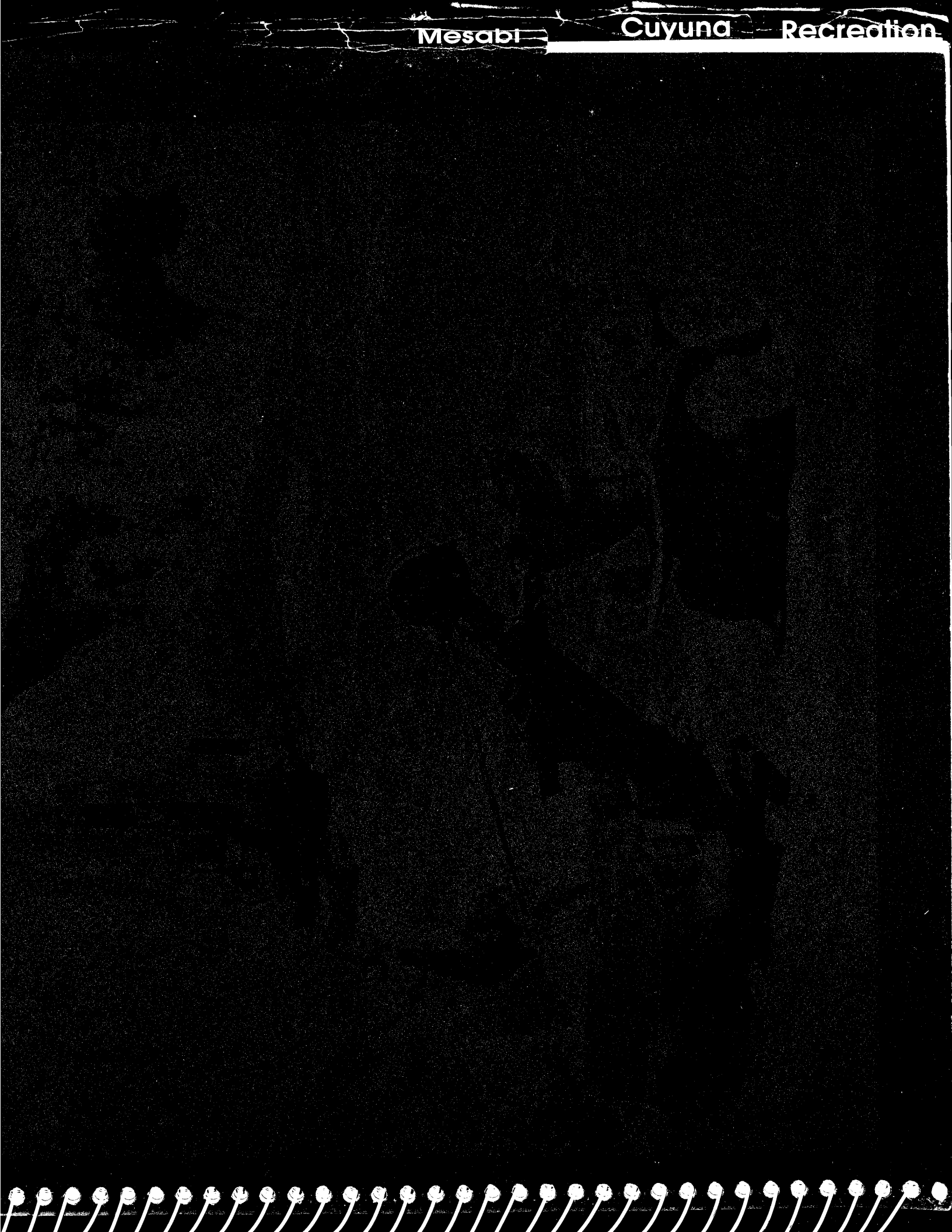
connected with a chain of lakes and thousands of acres of timber. The population grew from 100 lumberjacks and sawmill hands in 1892 to 600 by 1900.

In 1898, Robert and Sophia Whiteside and Richard and Ellen Whiteside filed for record a plat of land immediately south of the Knox mill location, and in 1899 dedicated the streets and alleys. Although the general area became identified as Winton, through the marriage of Knox's daughter to his partner, Mr. Winton, it wasn't until 1914 that the name was officially changed to the Village of Winton.

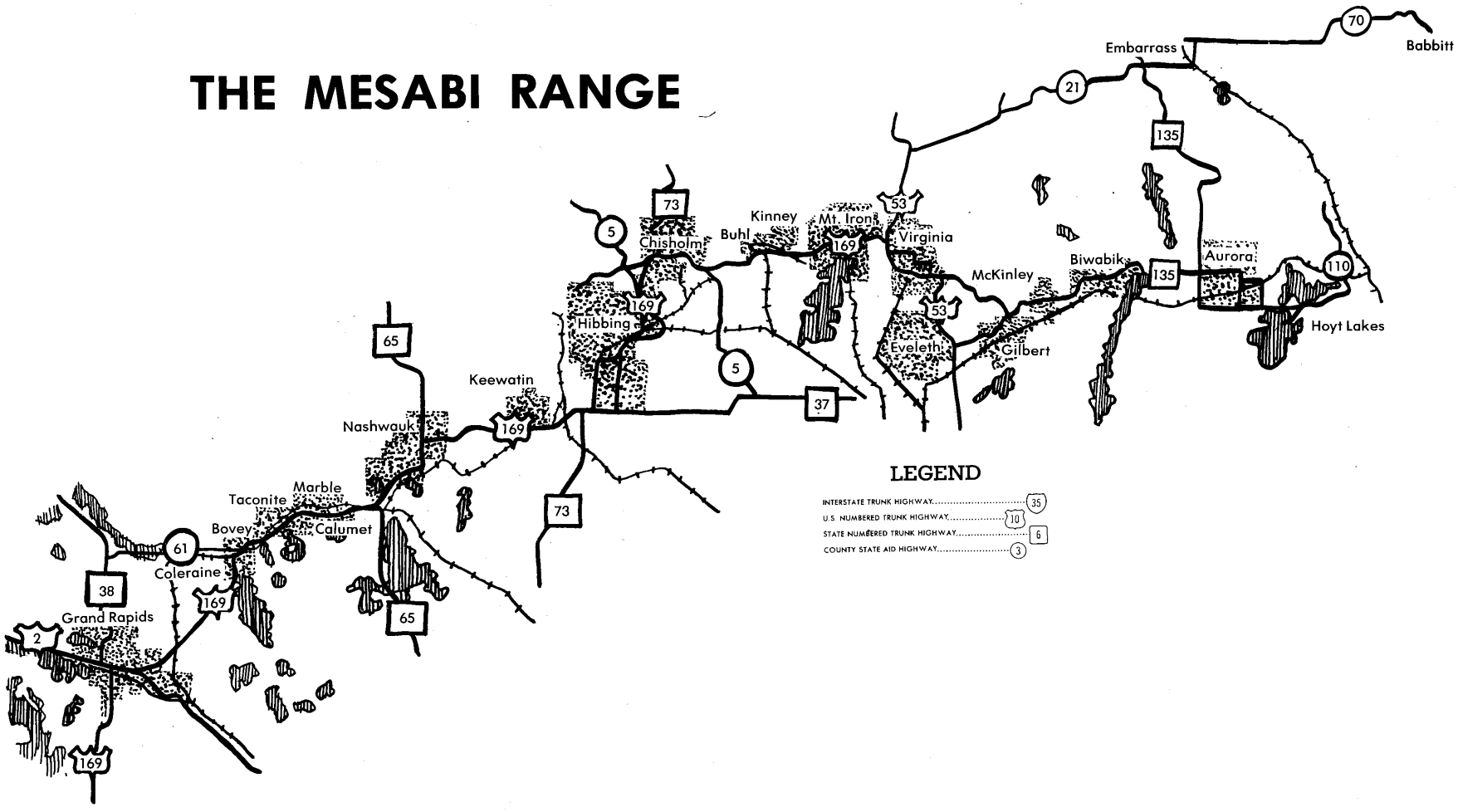
The population peaked at 2,000 area residents in 1914. However, soon after that lumbering began to decline and with it the village's population.

The village owned buildings deteriorated or were removed. The population dropped to 184, but Winton refused to die, managing to survive the depression and the war years.

The village is slowly reversing the image of a dying community. New homes have been built. Buildings beyond repair are being torn down. Many older homes have been remodeled for current needs. The City Council has created a Planning and Zoning Commission which is working out a zoning code and a plan for the future development of the village.



THE MESABI RANGE



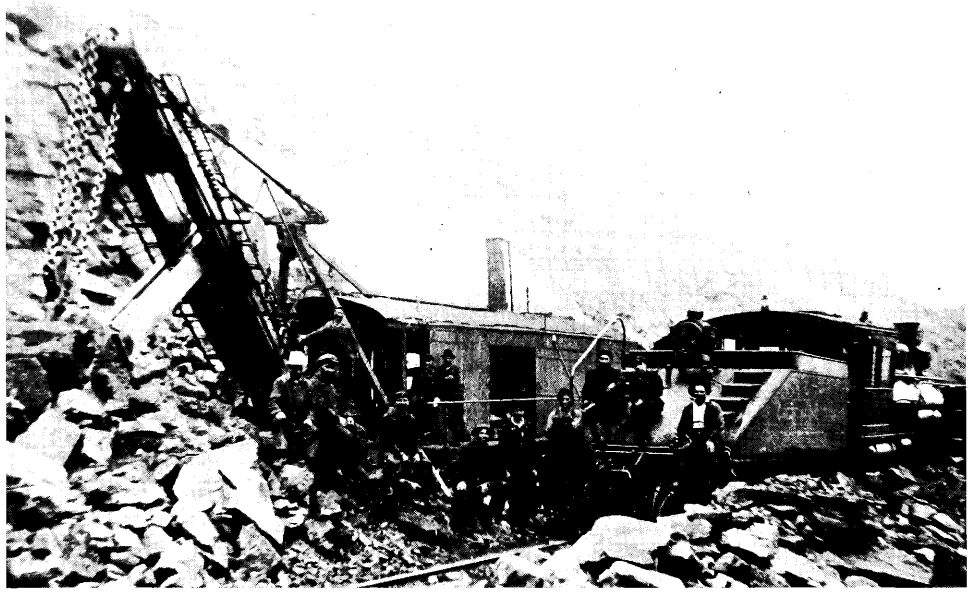
Mesabi Range Tour

Following is a brief listing of Mesabi Range sites and towns of visitor interest. Mileages are listed first from the center of Grand Rapids (junction of Highways 2 and 169) in the west and then from Babbitt in the east. For more details on individual sites, refer to the pages listed immediately following site and town names.

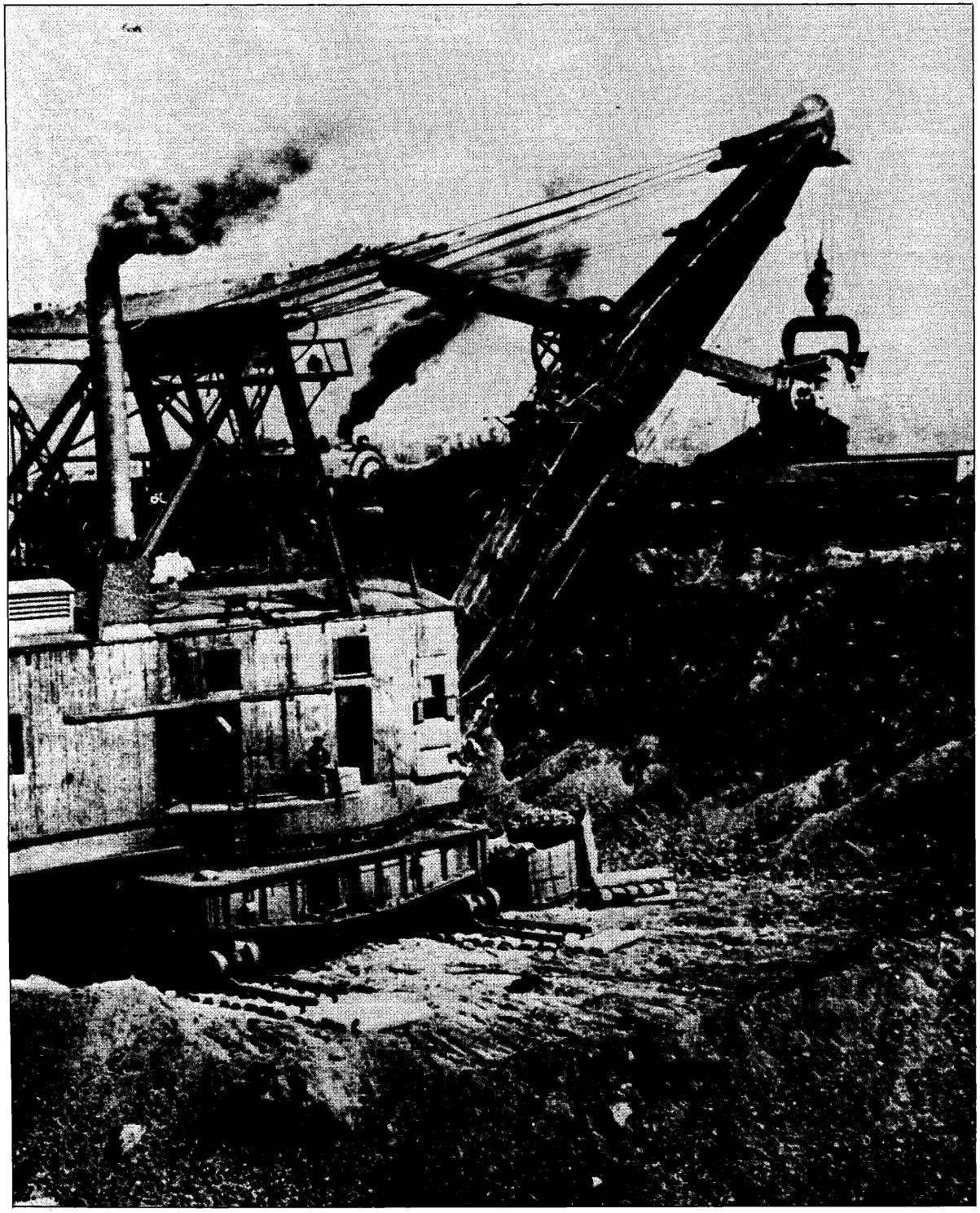
NOTE: Starred sites are **highly recommended** and indicate visits of one hour or more.

Leave Grand Rapids heading east on highway 169

1. **Grand Rapids** *(page 156)* mile 0.0/108.7
** A. Blandin Paper Company Tours
** B. Minnesota Forest History Center *(page 82)*
** C. Central School
D. Showboat Landing
2. **Coleraine** *(page 152)* mile 5.7/103.0
A. Town Hall
B. Company homes
C. Log Church (corner of Cole and Olcott Avenues)
D. U.S. Steel Research Laboratories
E. Coleraine-Bovey Cemetery
3. **Bovey** *(page 150)* mile 6.7/102.0
A. Town Hall
4. **Taconite** *(page 164)* mile 9.7/99.0
5. Turn-off (North) onto Scenic Highway #7 for side trip to scenic State Park. — mile 10.4/98.3
6. **Marble** *(page 162)* mile 13.7/95.0
7. **Old Calumet** *(page 151)* mile 14.3/94.4
A. Hill Annex Mine Viewpoint and Interpretive Area.
8. **Snowball Lake Wayside** — mile 16.9/91.8
Swimming
9. **Butler Taconite Plant** — no tours — mile 19.5/89.2
10. **Nashwauk** *(page 164)* mile 20.0/88.7
A. Hawkins Mine Viewpoint
11. **Keewatin** *(page 161)* mile 25.5/83.2
12. **Hibbing *(page 158)* mile 32.2/76.5
When entering Hibbing, turn north at sign indicating Hibbing Business District. At the western entrance to the city, follow yellow signs to the Chamber of Commerce offices for All-City Bus Tours. At the eastern entrance stop at the Hibbing Tourist Information Office located at the corner of Howard and 12th Avenue East. Important sites in the city include:
A. Hull-Rust-Mahoning Mine Viewpoint
B. Hibbing High School
C. Hibbing City Hall
D. Hibbing Historical Museum
E. Hibbing Chamber of Commerce Bus Tours
F. Paulucci Planetarium
G. Bennet Park
H. Carey Lake Recreation Area
13. **Kitzville** — mile 38/70.7
Kitzville is an especially good example of a mining location town.
14. **Glen Pillsbury Mine Complex State Wayside** mile 39.5/69.2
This is an excellent viewpoint of early open pit mines which are now inactive.
***15. **Iron Range Interpretative Center** *(page 96)* mile 40.0/68.7
Highly recommended, this is a unique center which describes the history, industry and culture of the iron ranges. Open year-round with admission fee. At the site of the Interpretative Center visitors can tour the Iron Range Research Center.
16. **Chisholm** *(page 152)* mile 40.5/68.2
** A. Minnesota Museum of Mining: examples of iron mining equipment, exhibits, and tour of a re-created section of a Mesabi Range underground mine.
B. Longyear Lake Causeway
C. Russian Orthodox Church of St. Nicholas
D. Serbian Orthodox Church
17. **Twin Cities Mine Viewpoint — mile 42.5/66.2
This is one of the best views of an operating taconite mine.
18. **Bruce Mine Headframe** *(page 105)* mile 42.5/66.2
19. **U.S. Steel Sherman Mine** — mile 45/63.7
20. **Buhl** *(page 151)* mile 47.0/61.7
A. Grant Mine site
21. **Kinney** *(page 161)* mile 49.7/59.0
Located north of Highway 169 on County Road 25



22. **Mountain Iron** *(page 162)* mile 55.2/53.5
** A. Minntac Taconite Plant tours
23. **Virginia** *(page 165)* mile 58.0/50.7
When entering Virginia on Highway 169, turn north onto U.S. Highway 53 and follow to Minnesota Highway 135. Turn east (right) onto 135 and follow through Virginia. Sites you will see in order are:
A. Olcott Park
B. Interurban Streetcar Buildings
C. Kaleva Hall/Old Town-Finn Town
Continue on Minnesota Highway 135 through Virginia and leave city by exiting onto U.S. 53 South. Follow U.S. 53 South to
24. **Viewpoint in the Sky — mile 60.0/48.7
25. **U.S. Hockey Hall of Fame *(page 154)* mile 65.0/43.7
26. **Eveleth** *(page 153)* mile 65.3/43.4
** A. Fairlane Taconite Plant Tours
B. Joe Bogdonich Museum
When leaving Eveleth, travel east on Minnesota Highway #37 toward Gilbert.
27. **Genoa Location** — mile 66.6/41.2
28. **Sparta Cut-off** — mile 67.3/41.4
29. **Gilbert** *(page 155)* mile 68.0/40.7
A. Iron Range Historical Society located in old City Hall on south side of Broadway.
At the eastern end of Gilbert, turn east onto Minnesota Highway 135.
30. **McKinley** *(page 162)* mile 71.8/36.9
For an interesting side trip; turn south (opposite McKinley turn-off) onto County Road 20 and travel 3.9 miles. On your left you can see a large Woodland Peoples' prehistoric burial mound behind the chain link fence of the Esquagama Golf Course. This is on private land, however, so please view it only from the highway.
31. **Biwabik** *(page 150)* mile 76.1/31.3
32. **Eli Wirtanen Farmstead** *(page 31)*
Turn south at the traffic light on the corner of Highway 135 and Sixth Avenue in Biwabik. Go one block and bear left onto County Highway #4. Continue 20 miles to sign. Turn right and follow dirt road ¼ mile to reconstructed Finnish farmstead on left. Highly recommended.
33. **Biwabik City Beach and Recreation Area** mile 77.4/
34. **Portage of 12 Poses** — mile 78.1/30.6
Located between Biwabik and Aurora.
Turn north at road to Giants Ridge Ski Area. Follow road 2 miles to trail.
35. **Aurora** *(page 149)* mile 80.9
A. Erie Mining Company Viewpoint
When arriving in Aurora, turn right at the traffic light and follow road one mile to stop sign. Turn left onto County 110 and follow five miles into Hoyt Lakes.
36. **Hoyt Lakes** *(page 161)* mile 86.8
** A. Erie Mining Taconite Company tours
** B. Longyear Drill Site—This is an excellent reproduction of the first diamond drill site (with equipment) on the Mesabi Range. Highly recommended.
After visiting Hoyt Lakes, return to Aurora and Highway 135. Follow highway for one mile and then turn north (right) onto Highway 135 (mile 80.4/28.3). Go 11 miles to junction of Highway 135 and County Road 21 and turn right.
37. **Embarrass** *(page 153)* mile 93.9/14.8
This is an excellent example of an iron range farming community, settled by Finnish immigrants in the early 20th century.
38. **Babbitt** *(page 149)* mile 108.7/0.0
A. Peter Mitchell Monument



Mesabi

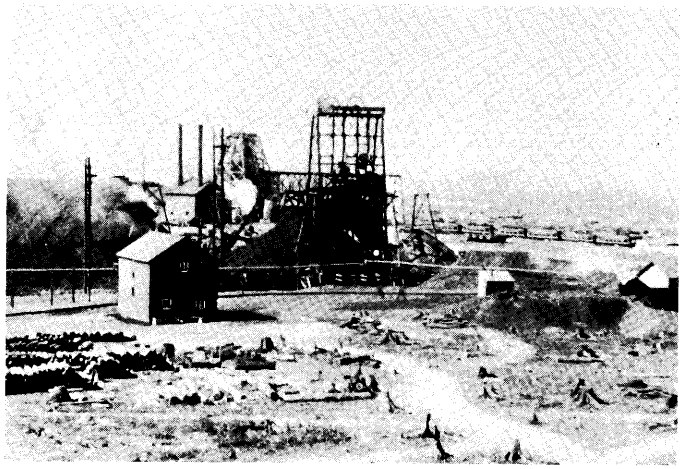
The Sleeping Giant

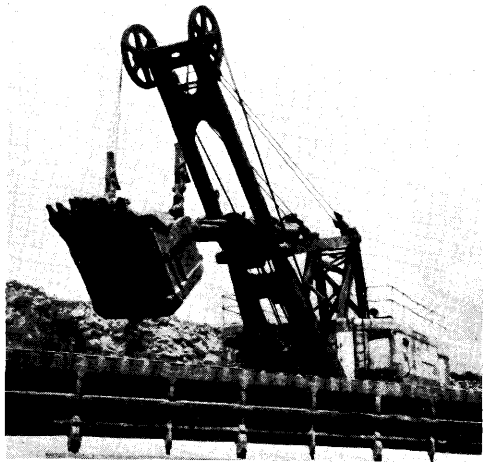
Silhouetted against the skyline, the hills of the Mesabi Range form the "sleeping giant" of Ojibwa legend.

This giant in the earth lay undisturbed for ages, its body covered with immense stands of virgin pine, criss-crossed by rivers and Indian trails, dotted with blue lakes. At its high point, the Mesabi forms the Laurentian Divide; from this height of land, waters flow either north to Hudson Bay, east to Lake Superior, or south to the Mississippi.

The Mesabi Iron Range stretches across northeastern Minnesota from Babbitt at its eastern end to Grand Rapids at its western. A hundred miles long and from two to ten miles wide, it is spotted with iron and taconite mines, taconite processing plants, and small cities, towns and "locations." For them, everything depends upon what lies beneath them—the iron ore that has fed the steel mills of the nation since the 1890s.

Once such wealth was discovered, the face of the land changed irrevocably. In only a few years the magnificent virgin forests of red and white pine and spruce were gone, leaving miles of stump-littered, barren hills. Gaping red canyons were gouged out





of the land, the lean ore dumps forming man-made mountains.

Change continues. Great yawning open pits are excavated as the low-grade ore called "taconite" is dug. Above the pits new overburden dumps rise; here grass, brush and small trees struggle to grow. Nowhere else in the nation have changes of such magnitude occurred as quickly. Immigrant miners with shovels in their calloused hands, and wealthy Eastern financiers with bankrolls in theirs, moved the earth, each in their own ways. Yesterday's wheelbarrows and today's goliath earth movers have helped to mine the ore that built the nation!

The story of the Mesabi is also the story of communities that appeared and disappeared virtually overnight. When richer ore deposits were discovered elsewhere, or the railroad passed them by, towns vanished. Whole towns were moved—literally picked up house by house and deposited on new sites — when rich ore was discovered beneath them. Towns burned down and were promptly rebuilt. The early villages and locations were frontier camps built of tar paper and lumber, rough-sawn from the trees cleared away for the mines. They boasted red mud streets and board sidewalks, boarding

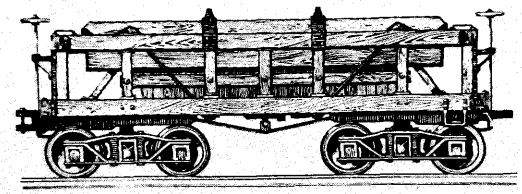
houses and livery stables. The houses of similar ethnic groups—Finns, Croatians, Slovenes, Montenegrins, Swedes, Serbians, Norwegians, Italians, and Cornishmen—clustered around churches, temperance halls and lodges. Even today, the buildings are noticeably close together; the land is too valuable to give up to spacious lots. Some towns were "company" towns, with rows of identical small wooden houses built by the company to house the miners.

But the early towns changed, too, as miners built permanent homes and carefully maintained them. New public buildings and stores, often of stone and brick, replaced the early rough structures. With mineral tax wealth, towns spent their way to paved streets, "white ways," city halls, schools that have been the envy of the nation, and city and government services undreamed of elsewhere. Directly affected by the economic recessions and depressions of the nation, Mesabi communities periodically became virtual ghost towns only to revive again as the steel industry prospered anew.

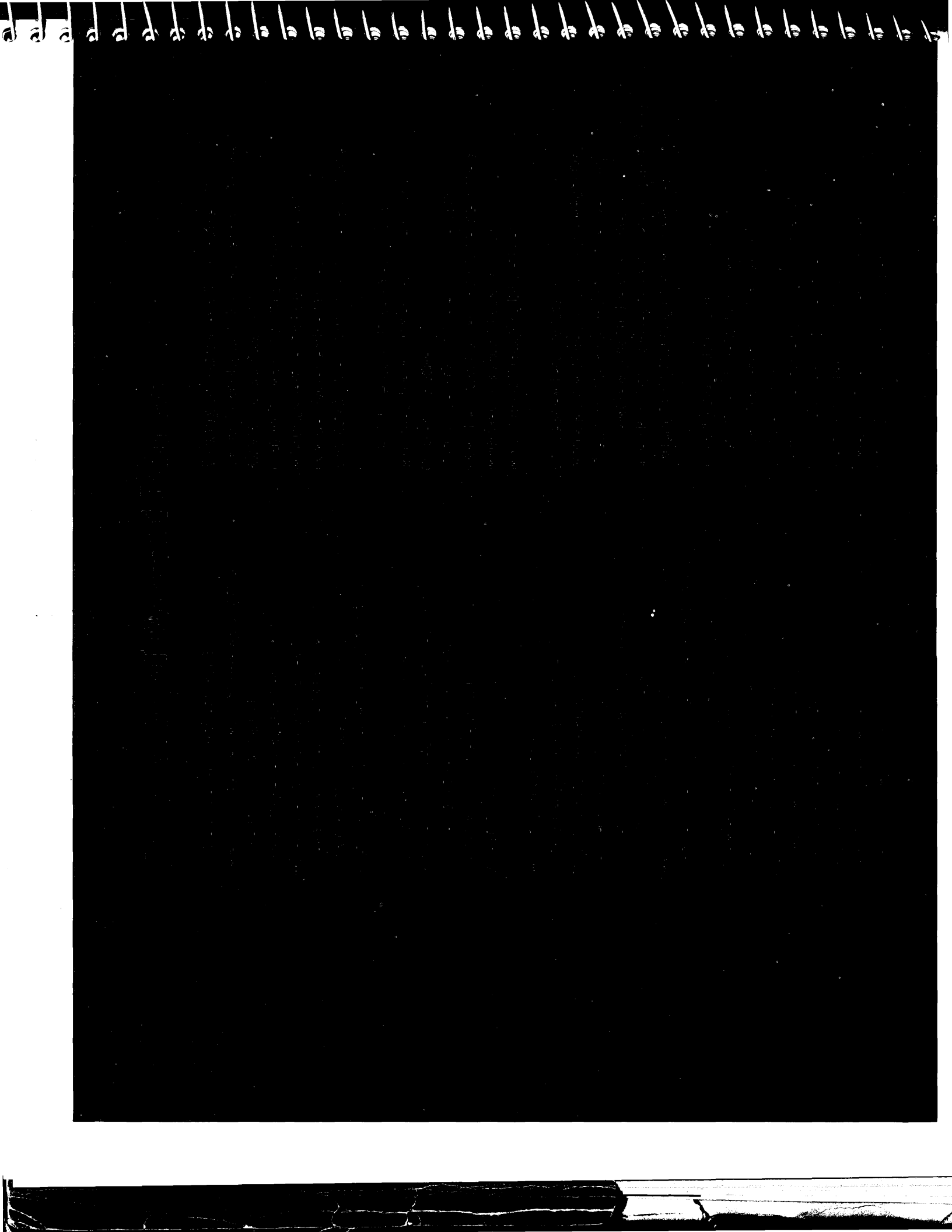
The story of the Mesabi is a story of wealthy men who became wealthier. But more than that, it is a story of men who worked the "graves," dreaming of a better life for their children in this new land. Their efforts to improve their lives cost them sweat and tears and sometimes those very lives, as they blasted and dug out the red ore.

Today's Mesabi Range is the result of the struggles of the pioneers. The towns, modern and progressive, still depend upon the ore that surrounds them. Uncertainties still prevail—towns again may be moved, mines may be abandoned, nationwide depressions may cost miners and those dependent upon the mines their jobs—yet huge deposits of ore remain to be dug and processed.

The Mesabi Range has created a special people; their roots firmly planted in its red soil, they identify with "the Range" and share an intense loyalty to it, as well as a fierce pride in the European roots and customs of their parents.



(top left) *Monroe Location*
(bottom) *Modern Keewatin on the western Mesabi Range*



The Iron Range Interpretative Center Chisholm, Minnesota

The Iron Range Interpretative Center, located one-half mile west of Chisholm, Minnesota, south of Highway 169, was built to provide a total sensory experience of Minnesota's iron mining history.

More than 75,000 persons have visited this unique center since it opened in the summer of 1977. When fully developed, the center is expected to be seen by 200,000 visitors a year. Very few attractions in the nation are as exciting as this one.

There are now forty-eight facilities, displays and stations at the center, featuring early man, discovery, immigration, geology, underground and open-pit mining, railroading, logging, architecture, labor and management, taconite, the region's environment, and the iron ranges in 2020. The exhibits are multi-media presentations with models, photos, audio, visual and participatory activities.

There are also year round ethnic crafts and food demonstrations presented on a regular schedule. These are managed by Northwoods Pioneer Crafts Co-op, Minnesota's largest peoples' craft cooperative, made up of residents of northeastern Minnesota. The co-op also supplies ethnic crafts for sale in the center's craft shop.

Most recently, a GEOLOGY WING has been opened which houses a collection of rocks, gems and minerals from the iron ranges.

ETHNIC PODS, attached to the center, will provide a special area for demonstrations of various local foods, crafts, songs, dance and native cultural skills that were brought to the region by immigrants from 43 nations.

The IRON RANGE RESEARCH CENTER *(note page 105)* is also located next to the Interpretative Center and coordinates some of its activities with those of the center.

This is one of Minnesota's most highly recommended visitor attractions! Plan to spend at least two hours per visit.

The center is open year round. Its hours are:

May 15 - October 15: 9:00 A.M. to 9:00 P.M.

Winter: 10:00 A.M. to 6:00 P.M.

There is a nominal admission charge for adults and students. Special, free tours are available for school groups with reservations.

Exploring the Mesabi

Mesabi, "the sleeping giant," was named by the Ojibwa who trailed across its pine-covered hills, paddled its rivers, and camped on its lakeshores.

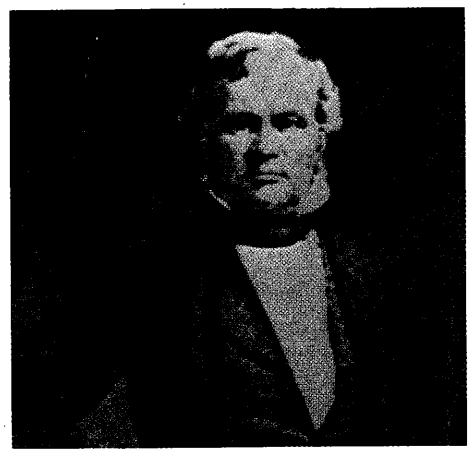
The Sioux, early white explorers, and fur traders also knew the region. By the 1820s, the mineral wealth of the Mesabi was suspected, and the British attempted to make the St. Louis River the boundary between the United States and Canada.

In 1848, Dr. J. G. Norwood, assistant to David Dale Owen, United States geologist, reported iron ore in the Gunflint Lake area; this was the first published reference to ore in Minnesota. Colonel Charles Whittlesay, a geological team member, reported goldbearing quartz in the Vermilion River. Before the Treaty of La Pointe of 1854 and the Treaty of 1855, which opened the area to white exploitation, prospectors had crossed the region searching for copper and other minerals. By 1858, Michigan mining men from the Keweenaw Peninsula had dug test pits for copper along the Knife and the French Rivers of Lake Superior, and a minor gold rush occurred on the Wisconsin side of the St. Louis River.

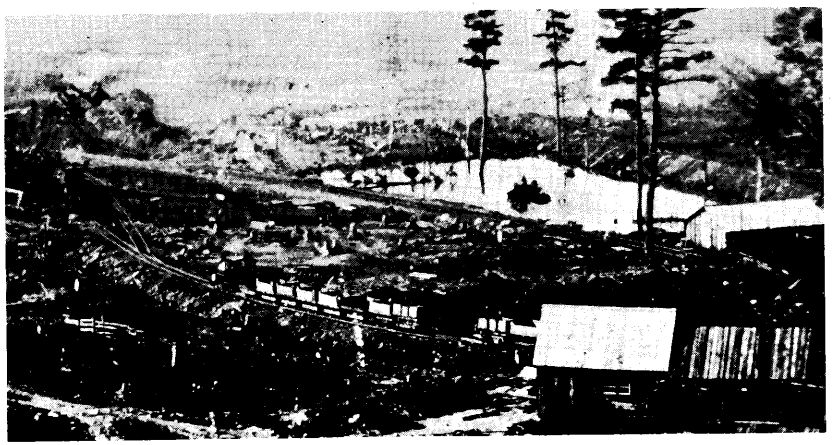
Minnesota's first governor, Alexander Ramsey, in 1849 stated to the legislature the need for a road from the capital to the mineral territory of the north. And in 1864, Governor Henry A. Swift appointed Augustus A. Hanchett to head a survey party up the St. Louis River to Lake Vermilion. They reported copper near Lake Superior, heavy iron deposits near the south shore of Lake Vermilion and the need for more mineral exploration of the area.

Henry Eames, first State Geologist of Minnesota, reported immense bodies of iron ore at Pokegama Falls and at Prairie River Falls. Eames and his brother Richard spent a summer on Lake Vermilion. In the fall, their report of gold sent thousands prospecting the hills of the Vermilion and the Mesabi in a gold rush. Several gold companies were organized in 1865 and 1866, and mines were begun, but none produced paying amounts. However, Christian Weiland, a trading post operator, travelling from Beaver Bay on Lake Superior to the Vermilion gold field, walked the Mesabi on Indian trails to Birch Lake on the east end. Taking ore samples, he sent them to Ontonagan, Michigan, where mining men recognized iron similar to that in Michigan.

In 1869, a Michigan group, later called the Ontonagan (Pool) Syndicate, combined their money to hire a party to explore the area near Birch Lake. The



Governor Alexander Ramsey



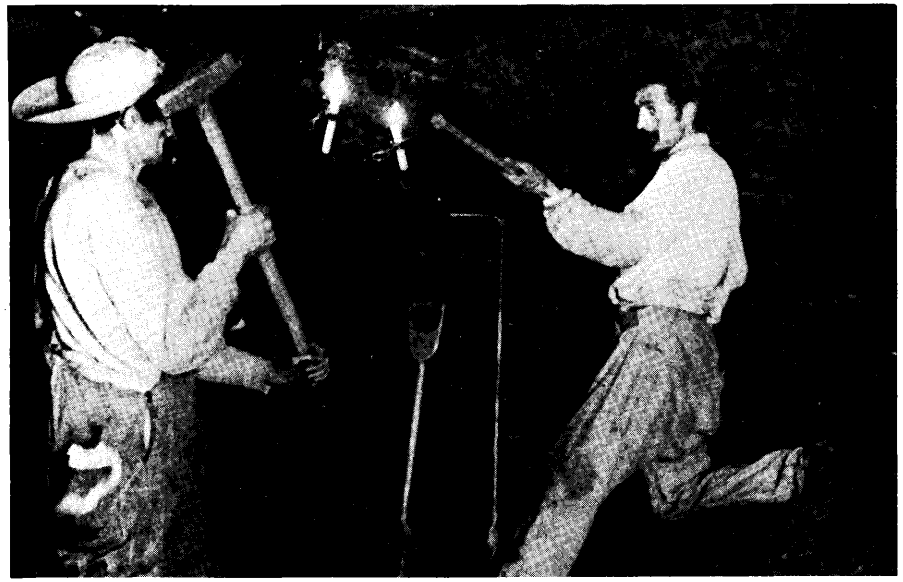
The Merritt's first Mesabi Range mine

The Merritt Family. From the left, seated; Cassius, Mother Hephzibah Jewett, Father Lewis, Jerome, Napoleon. Standing; Leonidas, Lewis J., Andrus R., Alfred. Lucien.

group included businessmen, saloon keepers, Duluth speculators, whorehouse operators, blackguards, and even Governor Ramsey. In 1870, Peter Mitchell led the party to the East Mesabi, moving from Weiland's trading post to Greenwood Lake to Stoney River to Birch Lake, camping at the mouth of the Dunka River. In the hills to the south, they found low-grade ore everywhere. Mitchell also noted the hematite. Test-pitting in the Babbitt area he reported a "mountain of iron" twelve miles long, two-and-a-half miles wide and four hundred feet high. The test pits were the first attempt to mine the Mesabi.

Seven Iron Men

These early explorers provided enough incentive for others to follow. The most famous and persistent explorers of the Mesabi were the Seven Iron Men—the seven sons of Lewis J. Merritt, a Duluth timber cruiser who held an unshakeable belief that the mineral wealth of the Mesabi would make the finders rich. The sons were Napoleon B., Lucien, Leonidas, Alfred, Lewis J., Cassius C. and Andrew R. Their father, Lewis, arriving in Duluth in 1855, was a pioneer settler of Oneota, a settlement which became part of Duluth. He was interested in the timber wealth of northeastern Minnesota now opened



to whites by Indian treaties. Caught up in the Gold Rush of 1865-66, he had noted the ore outcroppings on the Mesabi. Outside land speculators quickly secured the ore lands of the Vermilion, so the explorers of this area shifted their attention to the Mesabi Range.

The Merritts did not believe the Chester Survey reports of 1875 condemning the Mesabi as "too lean." And so they explored the Mesabi hills, pursuing their dream of discovery and wealth. In 1889, they hired Michigan mine expert Captain J. A. Nichols and on July 11, 1890, organized the Mt. Iron Company, capitalized at two million dollars, to test-pit around the present site of Virginia. On November 16, 1890, Nichols "struck ore" as wheels of a wagon cut into the soil and exposed rich hematite; assayed at sixty-seven per cent iron, it was so soft that it could be shoveled out! The hematite was non-magnetic, undetectable by compass.

The Merritts had found their mountain of iron! Expanding their holdings, they obtained as many as 141 leases, most on state land under a law that authorized such transactions with the proviso that twenty-five cents per ton be paid to the state.

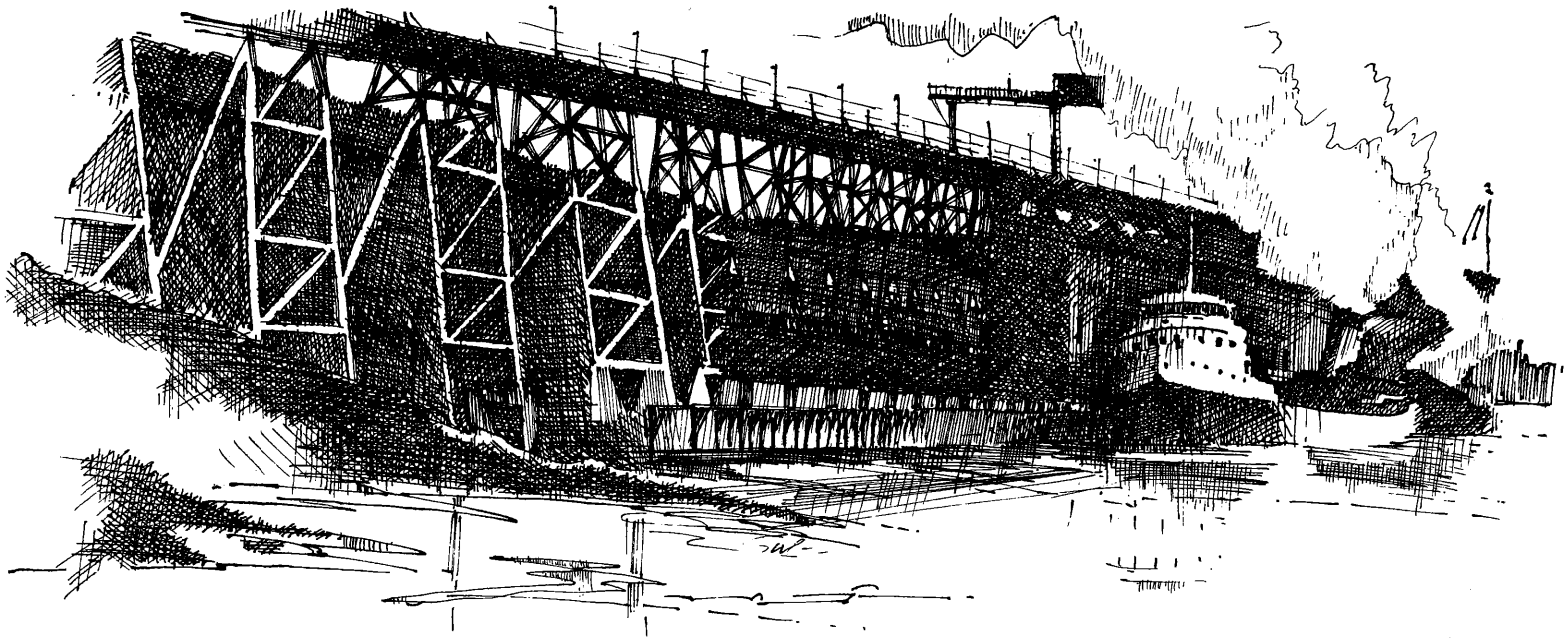
News of the rich Merritt ore strike, as well as others, such as John McCaskill's north of Embarrass Lake, brought speculators in a rush for Mesabi land. Mining companies were organized overnight. Land changed hands at the rate of two to five million dollars a day. There were hundreds of Mesabi Iron Range land companies, mostly speculative and interested only in buying and selling land. In the summer of 1891, hundreds of discoveries of ore were made across the Mesabi from Old Mesaba to the Merritts' Mt. Iron Mine.

In the spring of 1891, the Merritts took an option on land at the present site of Biwabik, organizing a second company, and contracting the removal of the overburden. Their mining captain, Arthur Stephens, brought the first steam shovel to the Mesabi to open the new Biwabik Mt. Mine. In the summer of 1891, Captain Cohoe, hired by the Merritts, discovered ore near the present site of Virginia.

The Merritts picked up more good land and decided to mine it themselves. Needing a railroad to transport their ore after the Duluth & Iron Range and the Northern Pacific refused them and Duluth merchants declined to back them, they bought the charter of the Lake Superior and Northwestern Railroad, which had never been built. With Chase Bank support, they built a 48-mile railroad from the Mt. Iron Mine to Stangbrook on the Duluth & Winnipeg Railroad. On March 1, 1892, they completed an 18.6-mile spur to their Biwabik Mountain Mine. On October 12, 1892, the first carload of ore from the Mesabi Range was shipped to Superior and loaded on a whaleback steamer.

Although they had their mountain of iron and had realized their dream, trouble plagued the Merritts; the ore froze in the winter and plugged loading pockets. Steel mills, needing renovation to handle Mesabi ore, were reluctant to buy it. The Duluth & Winnipeg raised its shipping rates. Duluth businessmen wanted an all-Minnesota railroad.

In 1892, the Merritts, continuing their expansion, formed the Missabe Mountain Company to exploit their holdings at the Virginia site, capitalizing it at three million dollars. Soon they decided to build their own ore docks in Duluth and their own railroad from the Mesabi to Duluth. This decision was to cost them their dream and their fortune. Their critical lack of finances led the Merritts into in-



volvement with eastern financial giants who eventually took over their Mesabi holdings.

Rockefeller and the United States Steel Corporation

In 1893, Henry Oliver, a well-known eastern steel producer associated with Henry Frick, Andrew Carnegie, and J. D. Rockefeller, owner of the American Steam-Barge Company shipping ore on the Great Lakes, was campaigning in Minneapolis for William Henry Harrison for President. Making a sudden trip to the Mesabi Range, Oliver rode a horse from Mesaba Station along the Mesabi Ridge Trail to the Cincinnati location near Old Merritt. He wanted to look at the Merritt property at Mt. Iron and Missabe Mountain, and immediately offered the Merritts cash for a lease on the Missabe Mountain holdings, promising to pay them $45,000 a month to operate them, the lease to run until January, 1903. The Merritts, needing cash, agreed. The Oliver Mining Company was thus organized.

In 1893, C. W. Wetmore, president of the Rockefeller American Steam-Barge Company, who had noticed the loading of the whaleback steamer, offered the Merritts money, with proper collateral, to build a railroad. Rockefeller would provide the immediate cash and the Merritts would mine the ore, ship it via their railroad, and use only the American Steam-Barge boats. Wetmore promised to raise two million dollars to build the railroad and the ore docks in Duluth. The Chase Bank, which held three-fifths of all stock in the railways the Merritts had already built, asked the Merritts to hold off. Suspicious of the Chase Bank since it was a major stockholder in the Duluth & Winnipeg Railroad, the Merritts decided to build the railroad when Wetmore suggested that the Rockefeller offer could go elsewhere. The Merritts bought out the Chase Bank for $250,000 and allied themselves with the American Steam-Barge Company in a new company—the New York and Missabe Company. They hired workers and began the line to Duluth, paying the crew with royalties from the Missabe Mt. Mine.

Then the Panic of 1893 hit. The Philadelphia-Reading Railroad folded and Rockefeller maintained that his loan could not go through. He bought special bonds on the Merritt railroad for a low price, however, to encourage the Merritts. In July, 1893, they completed the line to Proctor and were building the largest modern ore dock in Duluth. But trouble was brewing. Frederick T. Gates, a representative of J. D. Rockefeller, later summed it up:

May and June went by, with conditions worse every hour. The Merritts in Duluth had let their contracts for the big dock, and for extensions of the railroad; the contractors were at work with hundreds of men; the railroad debt was piling up at the rate of $10,000 a day; the mines were idle; and no money was forthcoming from the East. The financial arrangements had broken down, and the railroad was trembling on the brink of receivership. Interest in the lands was not being paid. There were labor riots on the Mesabi Range. Contractors were knocked down on the Merritt railroad by their enraged men. Knives were drawn. Men actually entered the railroad offices in Duluth with drawn revolvers, demanding cash or their paychecks. The personal affairs of the Merritts were in no better shape . . . Creditors were . . . threatening to sell their collateral.

The Merritts had only Rockefeller to help them. Rockefeller's brother Franklin had gone to the Missabe Mine and had seized the property on the grounds of debts to his brother. Rockefeller stepped in with cash for the payrolls, with a price for the help: fifty per cent of all shares in all Merritt holdings.

The Merritts claimed trickery by Rockefeller and litigation followed for years.

The Longyear Drill Site:
Hoyt Lakes

On May 27, 1890, Edmund J. Longyear and his two partners set up their Sullivan steam drilling rig about 1½ miles southeast of the boom town of Mesaba Station, marking the beginning of a new concept in iron exploration for the Mesabi Range. Each drilling brought to the surface a core of the subterranean features which geologists could then analyze to determine the mineralization, if any, that was present. Eventually, Longyear would direct the sinking of 7,133 test pits and diamond drill holes across the ranges, mapping the extent of the ore formation.

This first historic drill site has now been reconstructed under the leadership of the Iron Range Historical Society and is located three miles north of Hoyt Lakes on County Road 110.

There is an information booth in the parking area which directs the visitor along a quarter-mile wilderness trail leading to the site.

Equipment to be seen at the site includes:

1. Sullivan Model "H" Drill—This drill held the diamond bits that rotated to drill and core the earth.

2. Cameron #3 Steam Water Pump—The pump's purpose was to cool the diamond bits and wash down the casing.

3. Churn Buck—The churn buck was used to wash and drive down the drill casing and to remove casings upon completion of the drill hole.

4. Vertical Steam Boiler—Fueled by wood and coal, this steam boiler delivered all the power to the drill, churn buck and water pump.

Henry W. Oliver

By January, 1894, the Merritts had sold all their holdings to J. D. Rockefeller to meet their debts. In four short years, the Merritts had moved from potential kings of the Mesabi to penniless men.

It was Henry W. Oliver who evolved a plan set in motion in 1896 which marked a new step toward consolidation and cooperative arrangements in Minnesota iron mining.

An agreement was made under which the Carnegie and Oliver interests leased the Rockefeller mines for fifty years at 25 cents per ton of ore taken out. All the ores would be shipped on Rockefeller's railroad and on his ships and barges. For the time being, Carnegie kept out of transportation and Rockefeller out of steel manufacture.

The industrial temper of the time favored mergers and consolidations, and to the master minds of iron and steel the time was ripe in 1901 for a new move. Behind it was the gigantic figure of J. Pierpont Morgan.

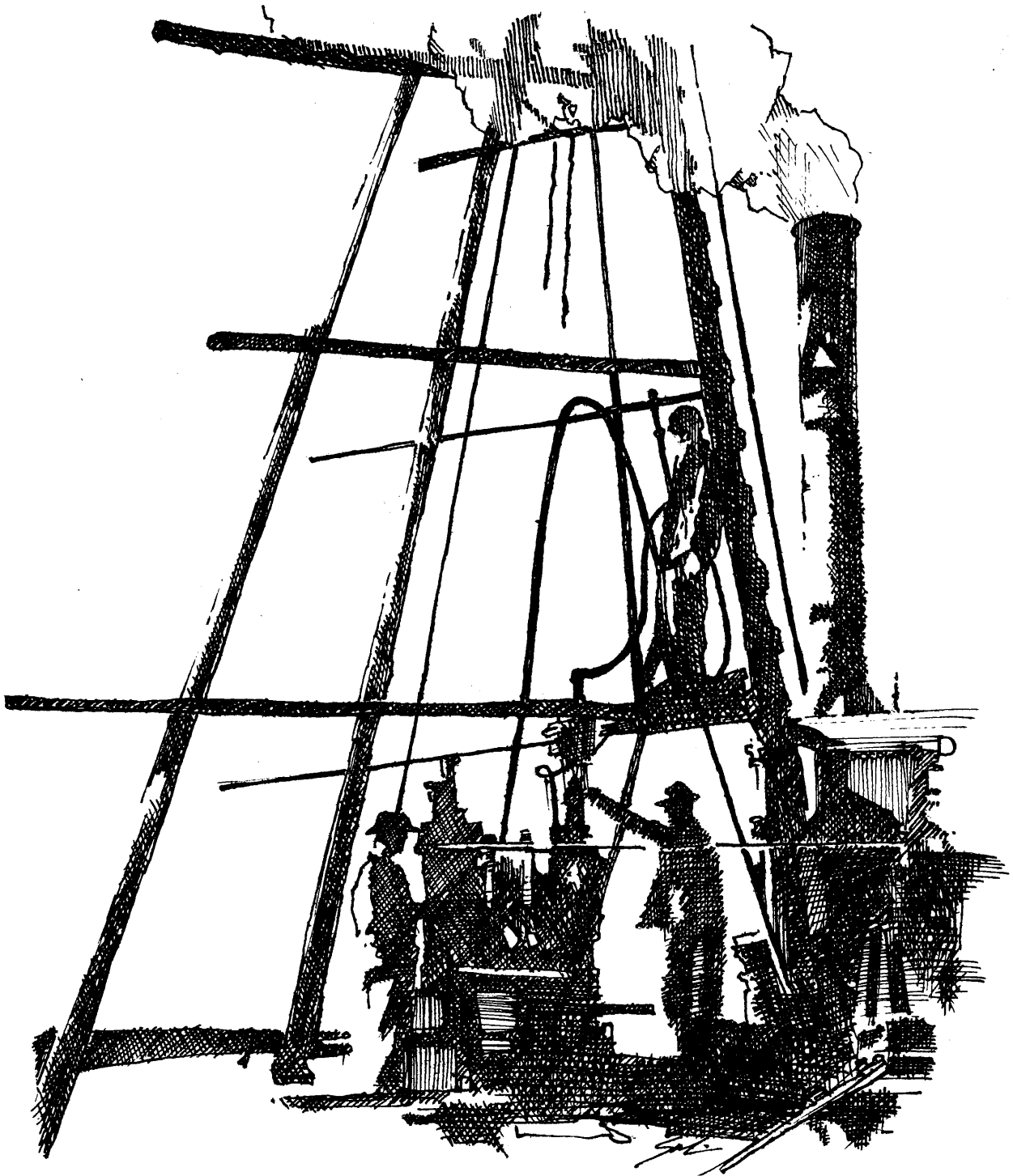
Some smaller companies were still active in the ore regions, but the great holdings were concentrated in the Lake Superior Consolidated Mines under Rockefeller's control; the Oliver Mining Company, the major part of it owned by Carnegie; the Federal Steel Company; and the Great Northern Railroad. The question was whether or not these and other related corporations could be brought together in a vast industrial concern.

The first step was taken through the Federal Steel Company. In 1901, Carnegie's properties were purchased for a sum in excess of $500,000,000.

All important were the vast Mesabi holdings and ore carriers of Rockefeller, and these were acquired next; $80,000,000 for the Mesabi mines and $8,500,000 for the fleet of carriers.

Thus, in 1901, the United States Steel Corporation came into being - an industrial giant of steel plants, coal lands, railroads, ore vessels, and iron mines with an authorized capital of $1,404,000,000.

And exactly what profit did Rockefeller personally earn from his investments in the Mesabi Range? That is almost impossible to state for no complete record exists. It has been conservatively estimated, however, that from a three to five million dollar investment, he earned a profit of fifty million dollars!

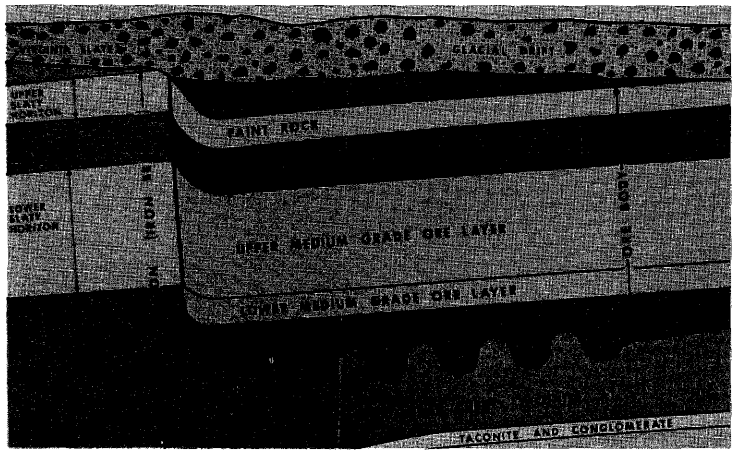


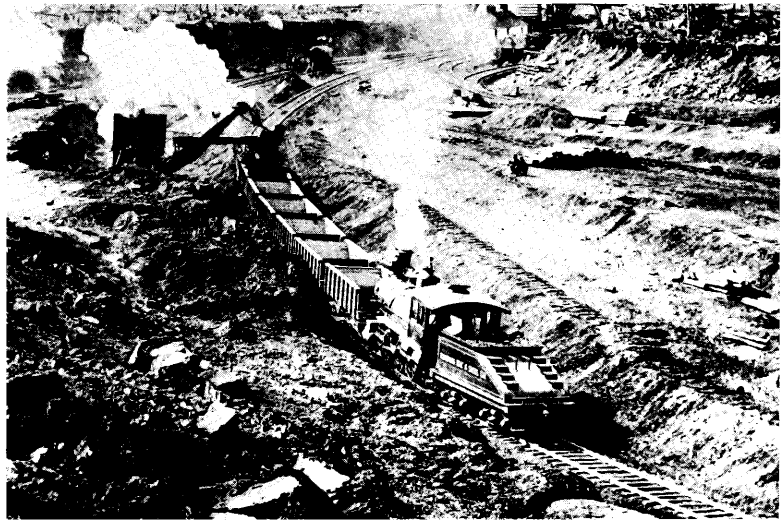
Mining Methods on the Mesabi

Methods of mining iron ore differed according to both the formation of the ore body and its hardness. On the Vermilion Range all of the mines were underground operations. There the ore bodies were folded at angles of 30-80 degrees, and the ore was hard rock that required drilling and blasting. The hard rock formations allowed tunneling with a minimum of timber support and danger of collapsing earth. The danger came from falling rock or blasting.

On the Mesabi Range the ore was soft hematite—so soft that it could be scooped up by shovels. It lay in horizontal or nearly horizontal pockets with some surface outcroppings. It was covered with glacial drift of sand, clay, gravel, and boulders, from depths of 20-100 feet or more. The formation of these scattered pockets of ore has been compared to raisins in a loaf of bread. The ore pockets were elongated basins with the long axis running a mile or more in a general east-west direction with the Range and the short north-south axis up to one mile wide running in a north-south direction. The depth of the ore bodies ranged from 40-50 to 250-300 feet deep. The nature of these bodies made new mining methods necessary. The old square-set method—that of the mines of Cornwall, England, and of Michigan—was the first used on the Mesabi. It was

Typical Mesabi Range iron formation.





An early Mesabi Range open pit mine. Note the use of the "dinky engine" to push the ore cars to the steam shovel.

suitable only for a few years in the earliest mines.

As the early Mesabi mines became larger and the nature of the deposits was realized, the square-set underground system gave way to the "slicing and caving" method, which was used on all Mesabi underground mines except the Adams and Eveleth where the square-set timber method worked.

"Milling"

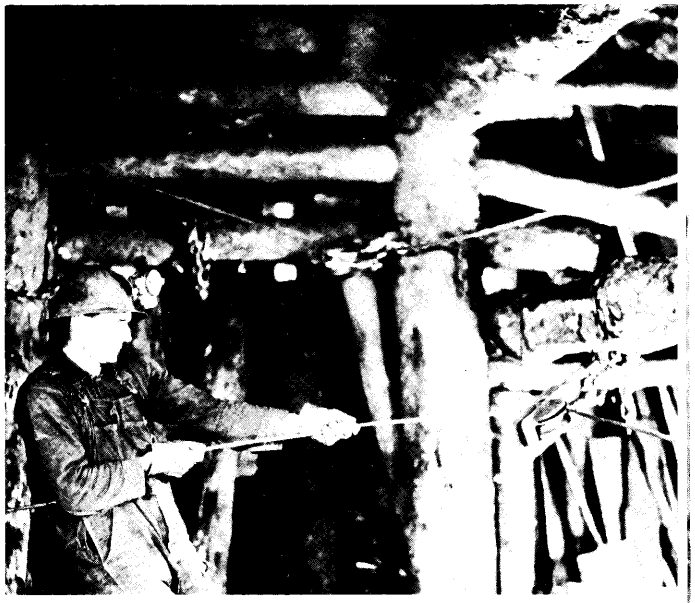
Another early mining method was the "milling system"—a combination of open-pit and underground mining. Stripping was done as for an open pit. Then a shaft was sunk at the edge of the ore body. From the shaft, drifts were run into the ore at fifty to sixty-foot intervals. Up-raises were then run from the drift to the surface. Through these openings the ore was "milled" down into chutes, loaded into cars, hauled by mule (later by electric winch) to the shaft, hoisted to the surface, and dumped into railroad cars. In soft-ore mines the milling was done by shovel and pick, later by mechanical tugger-scraper units. Where the ore was harder, powder blasts loosened it. Occasionally steam shovels were used. As the crater or mill became larger, the danger grew. Safety ropes were needed along the steep sides. Deaths were too frequent.

Open-Pit Mining

Open-pit mining became the major method on the Mesabi. Mines begun as underground operations soon became open pits. These required only steam shovels and unskilled labor, not skilled underground miners or timbering which added to the cost.

The glacial drift or overburden covering the top of the ore body had to be removed. (The removal was done strip by strip—thus, the name "stripping.") At first, "stripping companies" did the job; later the mining companies used "dinky" engines, small locomotives from one-half to three tons, and small railroad cars of three-yard capacity on narrow gauge tracks. As the overburden was scooped off, it was loaded into the cars and carried away from the ore body and dumped on land nearby, forming high man-made hills or "dumps" around the mines and mining towns. As the mining companies took over and the mining activity expanded, standard size locomotives, railroad cars, and tracks were used. The stripping cars increased in size to thirty yards in capacity. Electric-driven power shovels, gouging five yards at a bite, replaced the steam shovels.

The shovel required a crew consisting of a "shovel runner," a crane man, four pit men who made the



Minnesota Museum of Mining:

Chisholm, Minnesota

Located on the western end of Chisholm, the Minnesota Museum of Mining offers the visitor special opportunities to view and explore giant mining equipment that has been used in the open pits and underground mines of the Mesabi Range.

Climb aboard the steam locomotive No. 347 which was built in 1907.

Climb on the 110 ton Atlantic Steam Shovel, the only one of its type still in existence! Six of these shovels were built in 1910 and were considered to be the fastest shovels ever made.

Visit a replica of a 150 foot long mine drift of the early 1900s on the Mesabi Range. Details are so accurate that two television stations have filmed the drift for television productions. Touch the actual miner's tools, drills, tuggers, jackhammers and the "electric mule."

The Museum of Mining is open seven days a week, May 15th to October 1st, from 9:00 A.M. to 5:00 P.M.

There is a nominal admission charge for adults and students.

This is a highly recommended site and is the neighbor to the Iron Range Interpretative Center, located just one-half mile west on Highway 169.

Hull-Rust-Mahoning Open Pit Mine Hibbing, Minnesota

Located on the northern edge of Hibbing, Minnesota, the Hull-Rust-Mahoning open pit mine is the LARGEST OPEN PIT IRON ORE PROPERTY IN THE WORLD!

In 1895, the Mahoning Mining Company shipped the first trainload of ore. One year later, the Oliver Mining Company mined its first ore in what is now the Hull-Rust.

With the birth of a new industry came houses and buildings for the miners working in the mines. The new community was named after Frank Hibbing, who staked the first ore claim here in 1892.

The Hull-Rust-Mahoning pit embraces more than 50 individual mines which opened between 1895 and 1974. During the war years, the Hull-Rust-Mahoning made major contributions to America's war effort. Today, with their rock ribs showing, most of these operations have been depleted.

The making of the Hull-Rust group of open pit iron ore mines stands as a monument to the ingenuity and hard work of many men.

The vital statistics of the mine, as it is today, are:

AREA OF PIT	1,591 acres
LENGTH OF PIT	3.25 miles
WIDTH (widest point)	1.0 miles
MAXIMUM DEPTH	535 feet
WASTE MATERIAL REMOVED	519,133,000 gr. tons
IRON ORE SHIPPED	687,322,000 gr. tons
TOTAL MATERIALS REMOVED	1.2 billion gr. tons

The Hull-Rust-Mahoning Open Pit Mineview is included on the Hibbing Chamber of Commerce City Bus Tour.

Hill Annex Recreation Area

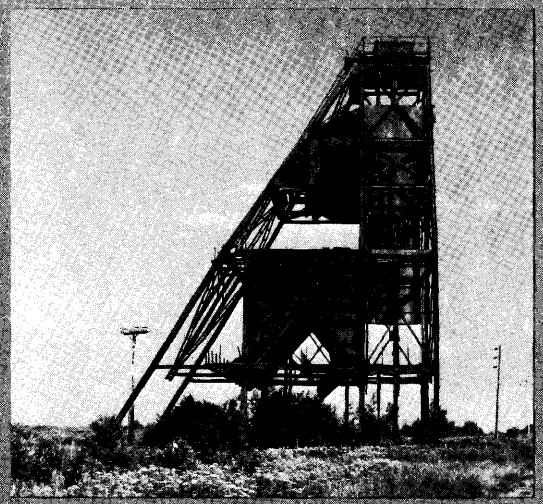
Calumet, Minnesota

The Hill Annex Mine is located in Section 14, Township 56N, Range 23W. The mine, less than ¼ of a mile north of the town of Calumet, has been operated by the Jones and Laughlin Steel Corporation for most of its 65 years.

The Hill Annex pit is approximately 300 acres in size. It is the easternmost portion of the Gross-Marble-Trumbull-Hill open pit. The entire pit is a little over 2 miles long and at its widest point is ¾ of a mile wide. The entire pit is about 800 acres in size. The Hill Annex portion is the most spectacular with sheer walls rising 500 feet from the bottom of the pit. This view is more spectacular when seen from the top of the rejects pile, which is 200 feet above the ground surface on the east edge of the pit.

The Hill Annex represents an era of mining that is almost over, yet it was for 60 years a large operational mine. For only one year since operations started back in the early 1900's, has this mine not operated, that was in 1932 during the depression. This operation typifies the way in which millions of tons of natural ore have been removed over the years.

This development shows the entire operation of a natural iron ore mine from the stripping process through the actual digging of the ore, transporting it to the plant, processing at the plant and finally loading the ore into railroad cars for the journey to the Twin Ports.



Bruce Mine Headframe:

The Bruce Mine Headframe, located two miles east of Chisholm and 4.5 miles west of Buhl, directly north of Highway 169, stands today as the lone remaining reminder of the days of underground mining on the Mesabi Range. The Bruce Mine opened in 1927 as a typical Mesabi "shaft mine" operated by the International Harvester Company. A shaft was sunk to a depth just below that of the deepest part of the ore body, and a drift driven below it. Sub-level caving was adopted and the ore dropped down to waiting carts below. All levels were heavily timbered to keep the soft, wet Mesabi hematite from crashing down on the miners. When a level was mined out, special crews dynamited the timbers and collapsed the entire excavation. Then the same process was begun in a lower level.

The Bruce Mine closed in 1938, but the headframe of the loading pocket and shaft remained as part of the debris left in the wake of mining advancement.

Iron Range Research Center

Located next to the Iron Range Interpretative Center *(Note page 96.)*, the Iron Range Research Center is the only one of its kind in Minnesota not associated with an institution of higher learning.

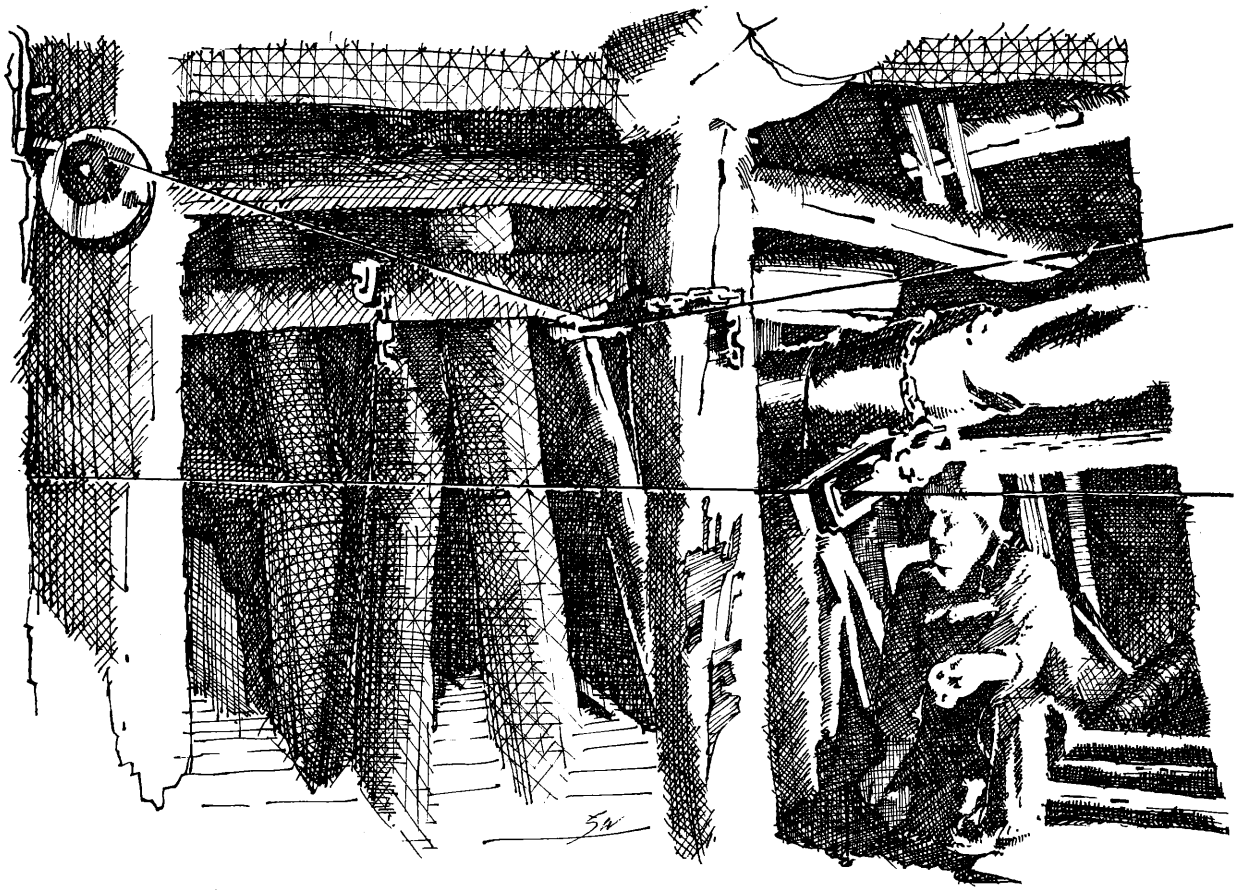
Giving much-needed depth, validity, reliability and authenticity to Iron Range historical research, its collections include letters, publications, manuscripts, documents, town, mining and business records, photographs, charts, maps, drawings, transcribed oral histories and all other data contributing to an in-depth understanding of the region.

Managed as an integral part of the Iron Range Interpretative Program with guidance provided by the Minnesota Historical Society, the center provides complete research facilities for Iron Range scholars and writers.

The Society encourages visitors for brief tours of the facility and the staff will gladly assist those with questions on Iron Range history and culture.

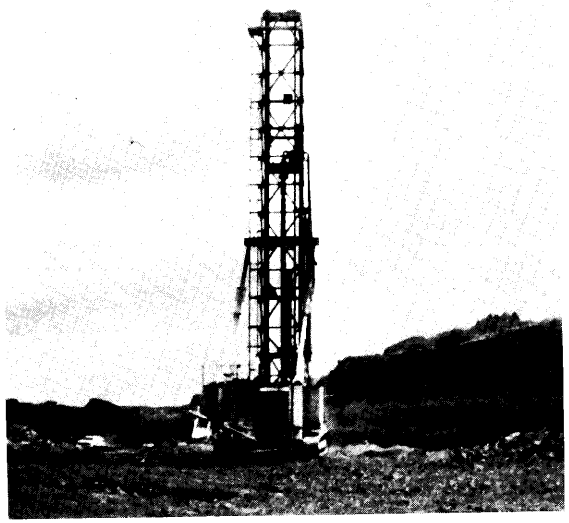
The center is open from Monday through Friday, 9:00 A.M. to 4:00 P.M. There is no admission charge.

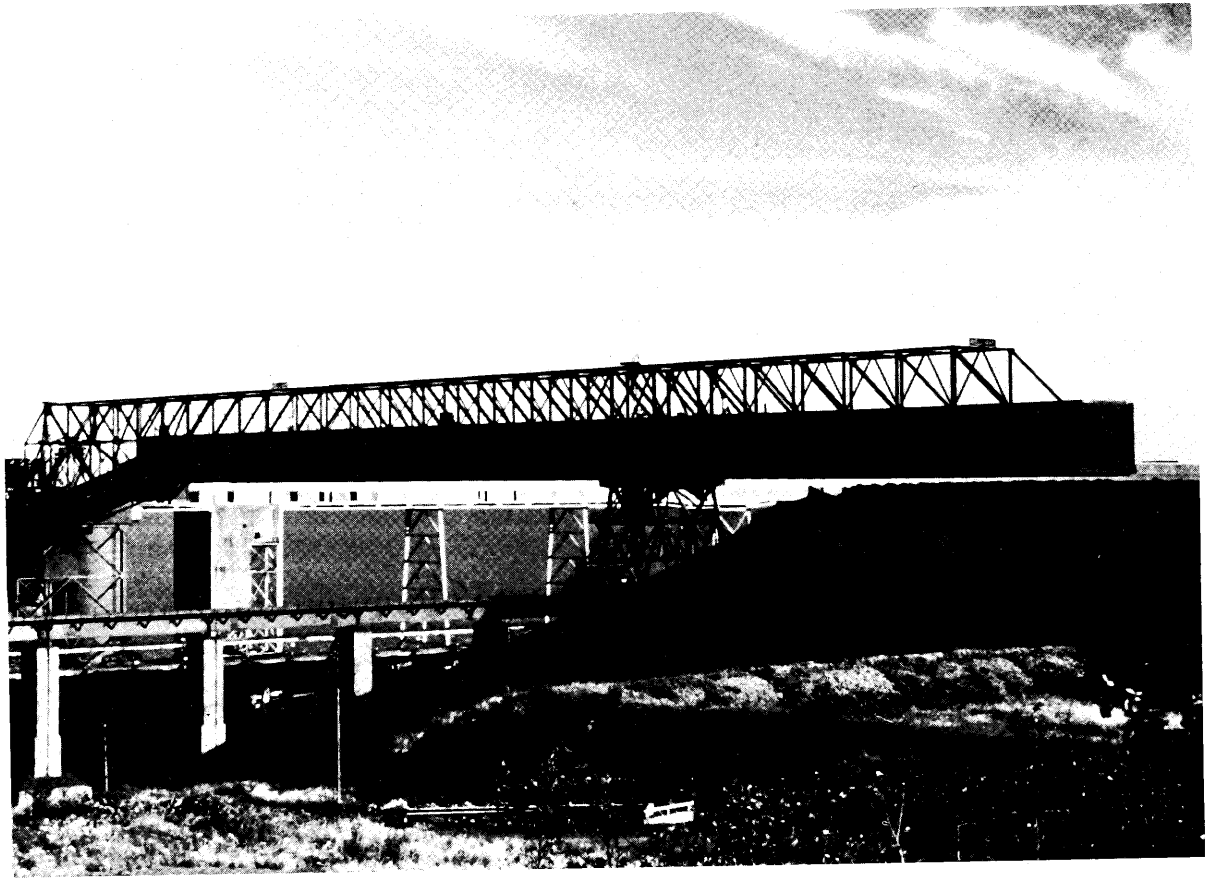
A Marion Steam Shovel and its crew, circa 1920/These shovels were the largest used in any mining operation at that time. A surviving example can be seen at the Minnesota Museum of Mining in Chisholm.



bed for the railroad tracks and moved the tracks (as fast as the cars were filled), and a "spotter" who kept the train running on a track parallel to the track on which the shovel stood. The engineers and the crane men were the skilled workers on the crew. To make the digging easier, the earth often had to be shaken up with powder. Holes were either drilled back from the edge of the bank to be shaken or made by "gopher holing"—dug by shovels with men lying flat in the holes to take out the last dirt. Kegs of black powder were set into the holes, covered, and then set off simultaneously by battery. Large boulders were dynamited. After the steam shovel filled the cars, dump cars carried the dirt to the dump gang who directed the unloading. The piles rose to form the contoured artificial mountains that today rise above the pits and surround the towns on the Mesabi.

When the ore body was exposed, the mining of the ore was done the same as the stripping, with the ore loaded directly into railroad cars running on standard gauge tracks into the pit. The early cars had a capacity of 50 tons per car, and the ore was hauled out of the pit in 5-car lots. Later, as 90-ton shovels became standard (some were even larger), a crew could load up to 8,000 tons in a 10-hour shift, although half





of that was considered good production. After the cars left the pits, they were assembled in a switch yard into a 50-car train to make the run to the docks in Duluth or Superior. The open-pit mines operated 2 shifts of 10 hours each.

As the pits became deeper and the grade too steep for locomotives, conveyor belts were installed.

Work in the open pits in the early days was frantic in the summer months as no operation was possible in the winter when the ground was frozen solid, the weather was bitter cold, and snow covered the land. Miners were laid off for the winter, and such lack of work led to hardship for the miners and their families.

Mining the Ore Today

Because most mining today on the iron ranges is for taconite, the process differs from earlier methods. It is still characterized, however, by large open pits, mammoth equipment and complex processing.

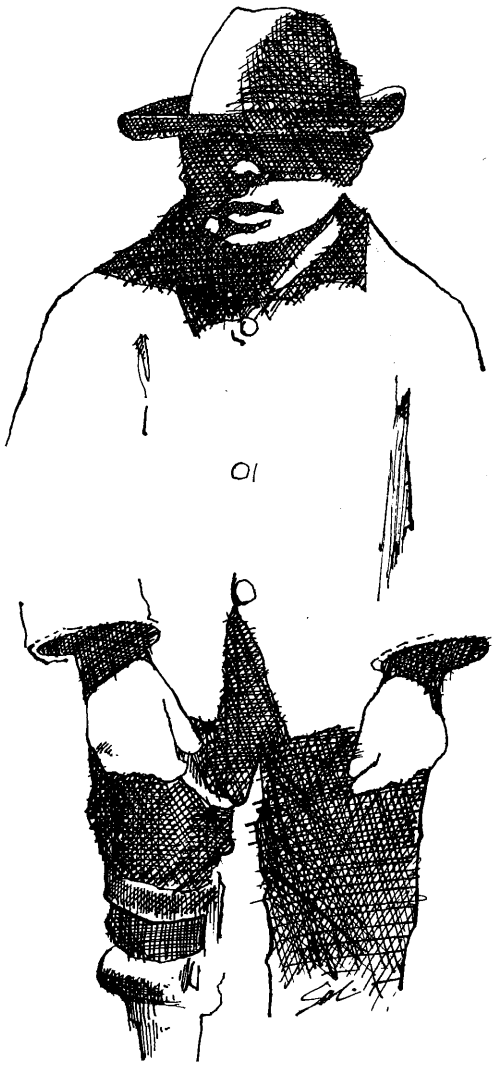
Drilling is required because the taconite ore must be broken up for removal. After drilling a specified number of holes with a powerful churn drill, each hollow is filled with a blasting agent. One of the most common is a mixture of ammonium nitrate and fuel oil. Good fragmentation of the rock aids in loading and reduces the necessary crushing costs.

After blasting, electric powered shovels scoop up to 14 cubic yards per bite and load trucks which hold 100 tons or more.

The trucks haul the ore to the first of several crushing stages which reduces the ore to 4-inch chunks.

Further crushing occurs in additional processes, reducing the ore to pieces of ¾ of an inch or less.

After the ore is crushed, it moves to the taconite processing plants, where it is reduced further and molded into pellets containing 65 per cent or more iron.



Iron Range workers struggle for recognition

Labor has played an important part in molding the character of the iron ranges. Without it, mines would not have been dug and the plants would not have been built. A labor force without unity, however, was subject to the whims of the companies.

The unifying force would be the union.

Through the union, the miners have been able to receive higher wages, better working conditions, excellent fringe benefits and no longer have to fear being fired suddenly, or without reason.

Several unions tried to organize the miners on the iron ranges, but only one was successful. The CIO in 1933 formed the Steelworkers Union and set up locals in cities and towns across the Mesabi Range.

The first union to try to organize the miners was the Western Federation of Miners. In 1907, the WFM helped to organize a wildcat strike in the Hibbing-Chisholm area. This strike was a failure; few leaders had emerged yet to rally effective support. The mining companies employed severe strike-breaking tactics to quash the strike, importing strike-breakers from Europe in a move that resulted in significant population changes on the Mesabi Range. The companies also employed Pinkerton agents to intimidate the workers.

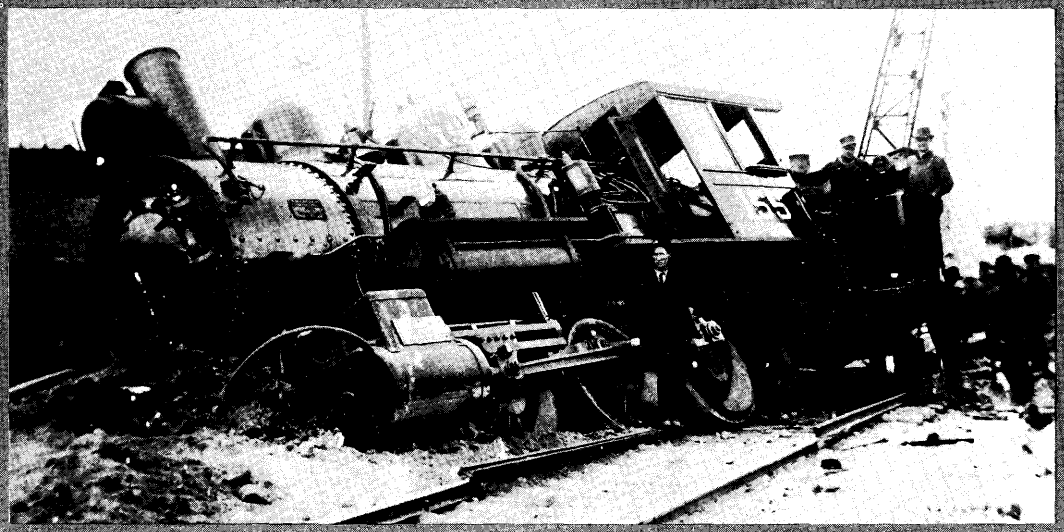
Hundreds of workers were blacklisted, never able to return to the mines to work.

Many left the region, while others moved to the edge of the range and tried to eke out a living from the rocky northern Minnesota soil *(see page 29).*

Ending almost as fast as it had begun, the strike was but a precursor to a more effective strike that would take place in 1916.

In June, 1916, a miner quit work at the St. James Mine near Aurora in anger over a smaller paycheck than he had expected. The rest of the miners at the mine followed him; the strike of 1916 had begun. Hoping to stop the strike from spreading, sheriff's deputies guarded all the roads from Aurora, but a miner managed to evade the guards, running to Virginia to tell fellow workers of the strike.

Three days later the strike had spread to Biwabik, and the International Workers of the World, or the IWW, began to assist in organizing the strikers. Gaining momentum, the strike had paralyzed the



Mine safety

Mining by any method was dirty, hard, dangerous work. Cave-ins, falling rocks, premature blasts, falls down ladders or steep slopes, killed many. A company assumption was that the miners, in accepting a job, were knowledgeable about mining operations and blasting; accidents were often blamed on miners' carelessness or drunkenness.

In 1898, 18 men were killed out of a total work force of 4,431 miners; in 1899, 34 of 6,645 died; in 1900, 39 out of 6,929; in 1901, 38 out of 7,629; in 1902, 56 out of 8,256; and in 1903, 49 out of 8,240. Some mines, notorious for their death rates, were dubbed "the graves." Later, accidents with machinery took their toll; men were killed in trains, trucks, and shovel accidents or were caught in conveyor belts. The dreaded sound of a mine whistle shrieking at unscheduled hours heralded to the community the news of an accident or death.

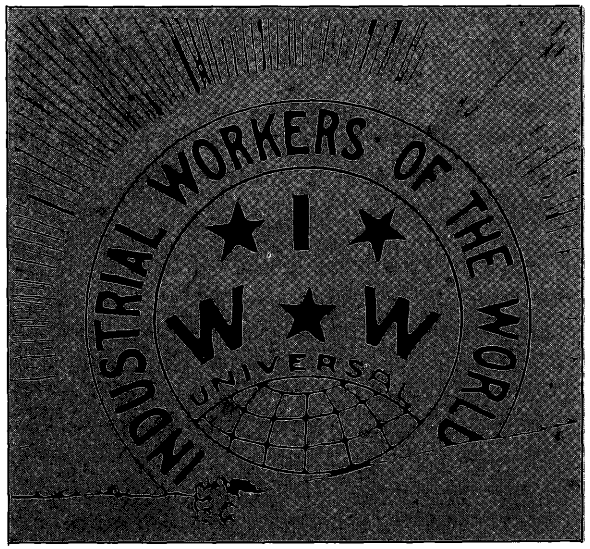
In 1887, a Bureau of Labor Statistics was created but was given no power to recommend or force improvements in work places. Mines were not mentioned in the law. Its 1891-1892 report recommended laws for mine safety after the heavy loss of life in the eastern Vermilion Range mines, but the recommendation was ignored. In 1893, the power of the bureau was increased, but it still had no provision for inspection of mines. In 1900, it recommended the appointment of a mine inspector with power to enforce laws protecting miners, and the next year safety provisions were instituted: more than one exit, separation of ladderways by partition, platforms for ladders at intervals to cut the distance, hoods and safety catches for the cages, the separation of ladders from the hoisting shaft, and the proper storage of explosives. Since these beginnings, mine safety has improved; safety inspections, safety education and job training cut down the death and accident rate.

Contract Mining

The contract-wage system was the method of payment for the miners in practically all the underground Range mines. At each working place a price was set for production—so much per car or per foot. The price included the cost of labor and supplies—fuses, caps, explosives, shovels and carbide. A miner's pay was the agreed price minus the cost of his supplies. (The cost of materials paid for by the miner was the company cost plus ten per cent for handling.) The mining company furnished the drills, hoses, rails, car, timber, and hoists—all the major pieces of equipment.

The price per car or foot was set by the mining captain by virtue of his knowledge and experience. The price could not be too high or too low. If low, the miner would balk at working; if high, "running away" would occur—the miner would make too much. If the price was too high one month, the rate was cut the next; if it was too low, it was raised.

It was a troublesome system. A mining captain could show partiality by placing favored men in areas where the ore was easy to dig or required fewer explosives and fuses. Other men were assigned to areas much harder to mine. The result was resentment and friction. Actual or suspected "troublemakers" for the company could expect no favored treatment. When the pay and the assignments were considered satisfactory by the miner, he worked hard to produce more. The system, such as it was, continued until the recent change to taconite mining.



entire range by June 15, 1916, closing the mines, stopping the trains and bringing the area to a standstill.

Violence marred the strike. On July 3, deputies went to the Chicago Addition near Biwabik to arrest several men. A fight ensued and a soda pop vendor who was walking across the yard was killed by a deputy.

Every method was used by the companies to stop the strike. At first, the sheriff brought in 800 deputies to guard the mines and company property. IWW leaders were arrested on trumped-up charges in order to have them sent from the range. Force could not kill the strike.

For ninety days, the strikers, with support from the IWW, held the companies in check, but in the end the men went back to work and the strike officially ended on September 16, 1916.

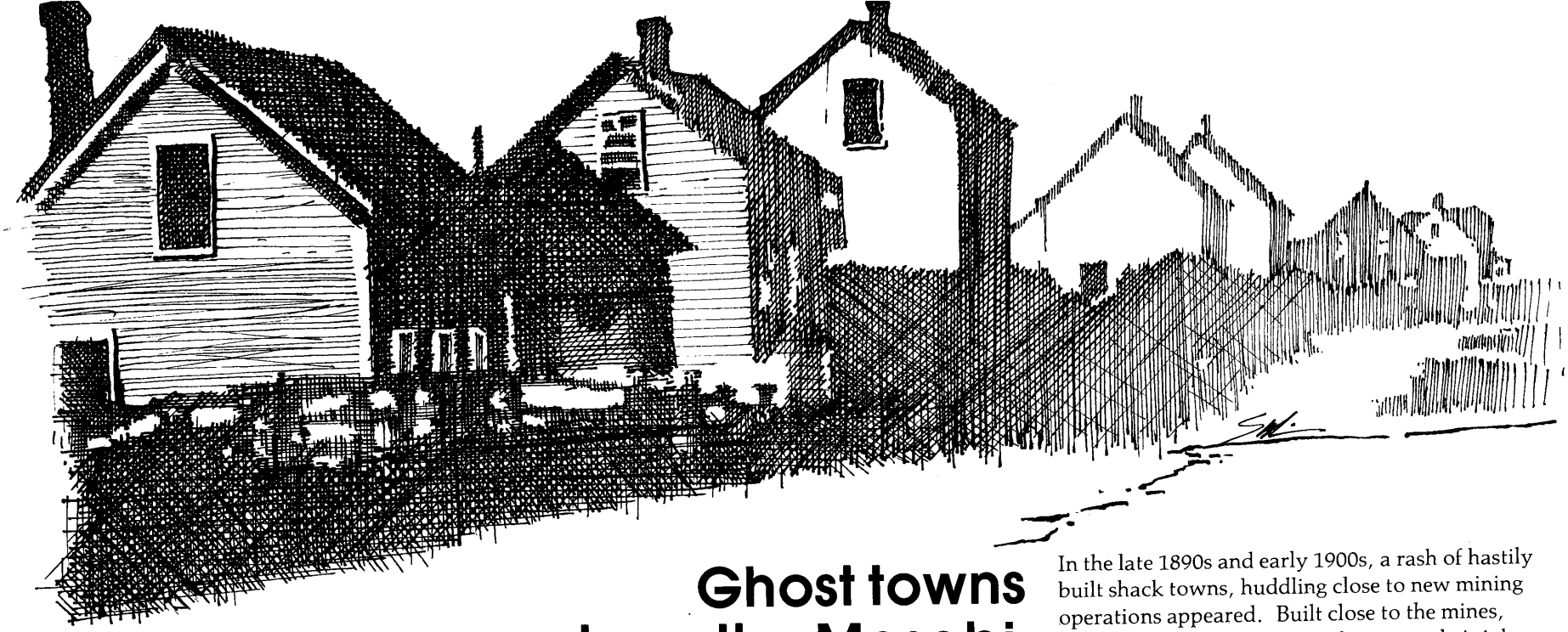
The miners grew weary of sitting around and not earning money; they voted to return to work as suddenly as they had left it. Both the IWW and the steel companies claimed victory, but it was a draw.

Although the miners returned to work under the same conditions as those they had left, they would, in time, win what they had fought for: an eight-hour day and higher wages.

It wasn't until 1935 that workers won their biggest victory. With the passage of the National Labor Relations or Wagner Act, laborers for the first time in American history could band together and bargain collectively.

Several more strikes would occur, however, in 1946 and 1958, before workers on the iron ranges would achieve a standard of living commensurate with workers in other parts of the country.

Today, through collective bargaining and effective organizations, iron miners have benefits scarcely imagined by their fathers and grandfathers. Grievances still arise, however, and the iron range unions must always be ready to meet their corporate counterparts—only now it is across a table rather than through the violent struggles of the past.



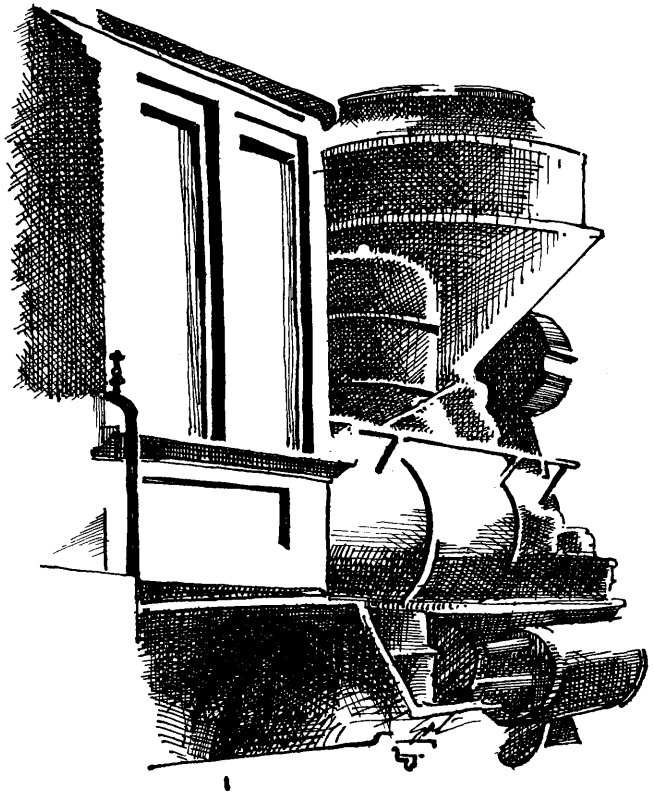
Ghost towns along the Mesabi

In the late 1890s and early 1900s, a rash of hastily built shack towns, huddling close to new mining operations appeared. Built close to the mines, these "locations" housed workers near their jobs. Extremely large numbers of men were needed in those days to make even the smallest mine pay off, and some sort of accommodation had to be made for them. However, the life span of many of these locations was relatively short; some mining attempts failed, companies folded and disappeared overnight, leaving test holes and small mines to fill with water.

Some locations, such as Aurora, Gilbert, Biwabik, and Eveleth, grew into stable communities; men were quick to move their families to these places. Other locations faded away; ore deposits discovered directly underneath, or railroads by-passing a community were only two of many factors that spelled sudden or eventual doom for various communities. Few people today remember Meadow, Adriatic, Bangor, Syracuse, Miller, Mohawk. Yet these places and others once competed for continued existence with the modern, vital range communities we know today.

Old Mesaba

During construction of the Duluth and Iron Range



Railroad, which opened the door to the settlement of the Vermilion and East Mesabi regions at a cost of over two million dollars, a small settlement existed briefly near what is now Hoyt Lakes. This center of activity was known in those days as "Mesaba Station."

Near the shiny new railroad stood a shack with the name "Mesaba" lettered above the doorway. Around it were hastily built shanties. Day after day in the late spring of 1884, the steady whine of a sawmill could be heard as teams of horses dragged huge pine logs along the muddy trails to the mill.

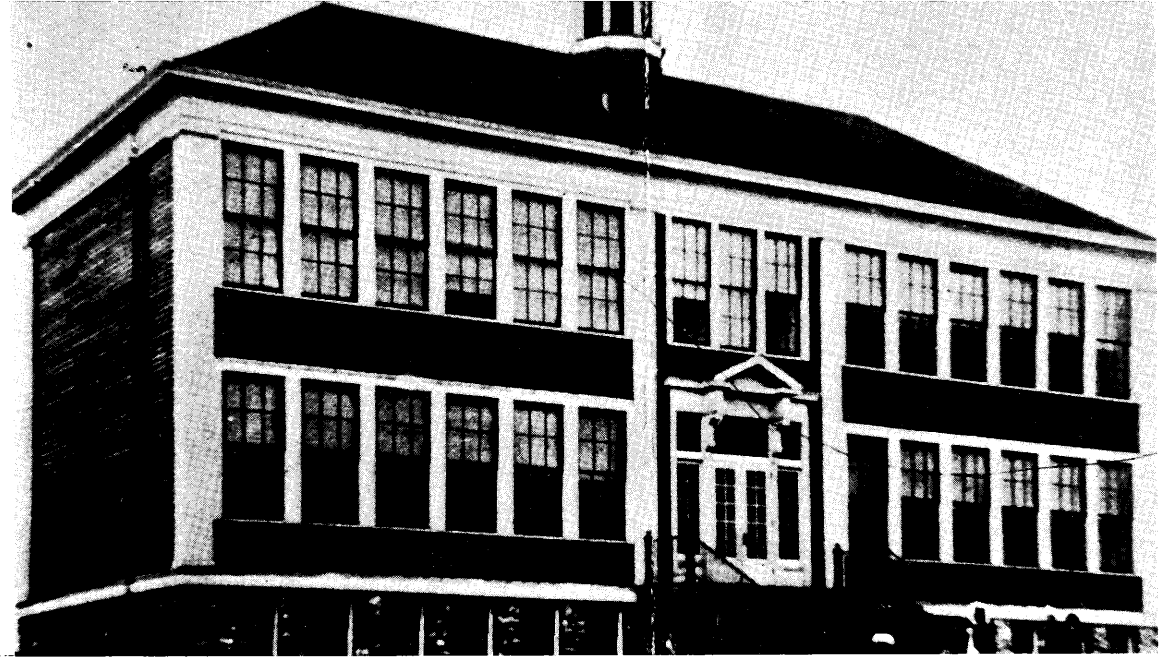
The crude settlement became the outfitting terminal for all trips into the wilderness, since the railroad had been completed only this far. To the north of this booming center, a brushed-out path followed the edge of the high timbered hills to the iron district of the Vermilion Range. To the west, another tote road ran along the Mesabi ridge to the western iron locations.

With sparks and smoke spurting from its high stack, the "Three Spot," first locomotive on the railroad, chugged along the newly-laid track, bringing men and materials for railroad construction, exploration, and for the new mines opening. The tall pines echoed the shouts of many languages as Irish, Finnish, and Italian laborers, broad-shouldered and strong, followed the woodland paths to new jobs.

After the completion of the D&IR Railroad to the ore bodies on the Vermilion Range, Mesaba Station declined, and although some lumbering was being done in the area, it appeared that the center of shacks and shanties would soon disappear. However, the discovery of vast ore reserves on the Mesabi Range was a shot in the arm for the old center and it grew rapidly into the main outfitting station for the Mesabi Range. Lumber was needed for the new mines and locations and once again Mesaba became a busy population center of fifteen hotels and many general stores.

But after World War I ended and the Oliver Mining Company pulled its investments out of the mines near Mesaba, the old village declined rapidly. A few attempts were made to rework some of the old mines, but this was not enough to retain people; the population dropped steadily.

In December, 1947, the last three voters cast their



Old Merritt, 1892
Mesaba school, 1914

ballots and all favored dissolution of Mesaba.

Mesaba was dead.

Walberg's brick store and the town hall remained on the townsite until 1960 when they were finally dismantled. The Jones and Laughlin Steel Company used the old town hall for a company office when they reworked the Graham and Wentworth pits from 1952-1956. Finally, what was left of the townsite was absorbed by the Erie Mining Company's taconite operations.

Old Merritt

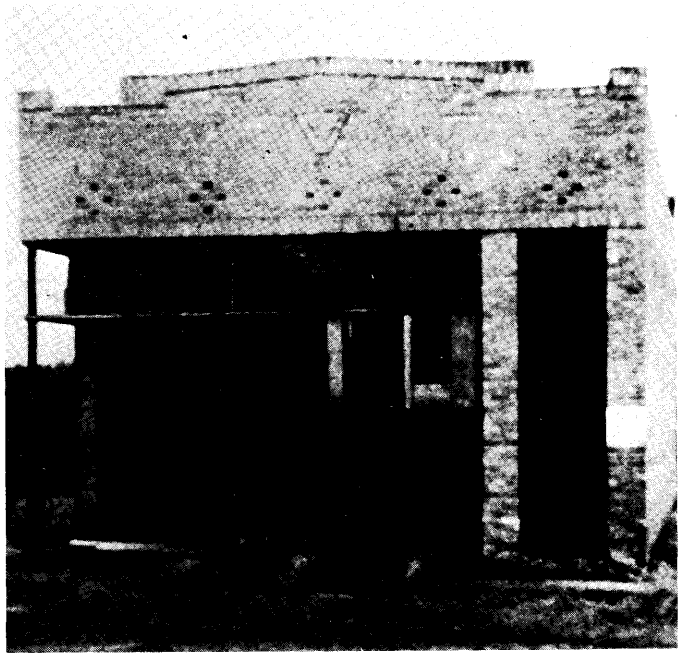
By 1890, even though the railroad had spanned the wilderness to the Vermilion Range, the Mesabi district remained primitive, unsettled and unspoiled. On a hot, muggy afternoon in August of that year, a storm blew up from the southwest, uprooting many trees and exposing rich, red iron ore. That fall, John McCaskill, a Canadian explorer and woodsman, found this belt of fallen trees, noted the iron ore deposits under the broken roots, and "dug a test pit, bottomed it in ore, took out specimens, threw the rest of the ore into a creek, and covered the pit with brush."

Later on, the Merritt brothers secured a ten-day option on property in the same area and worked day and night to prove the existence of iron ore. In the fall of 1891, the Biwabik Ore Company was organized, bringing in the first steam shovel on the Mesabi Range, a "monstrous undertaking owing to the almost impassable character of the road for twelve miles."

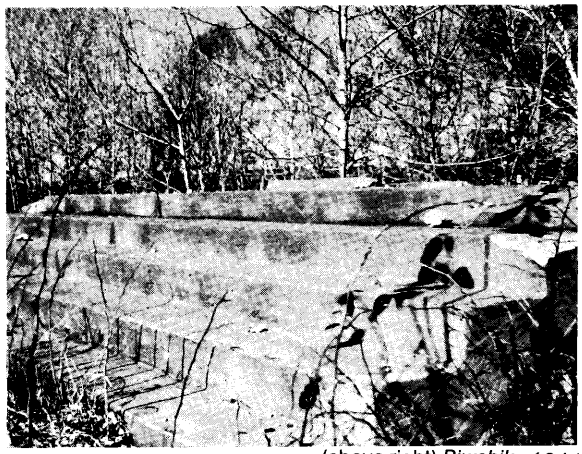
Within a few months, four new mines were producing rich quantities of ore. The township of Merritt was established on the top of a hill overlooking two of the mines. The new township was named after the Merritts because they "had done so much to bring to the attention of the world, the mining possibilities of the range, and (they) had taken the initiative in providing it with its first railroad."

Strange as it may seem, the Merritts were not pleased, probably because they had not been consulted, and nearly all members of the family avoided the town on their trips over the range.

This, however, had very little effect on the new community, and soon Merritt had all the earmarks of a thriving, prosperous town. No one in these early days would have doubted for a minute that



One of the last buildings on the Mesaba townsite, 1947.



(above right) *Biwabik, 1911*
(above) *These steps are the only remains of the Mesaba school pictured on page 113.*

Merritt would prosper and grow into a busy mining town. However, when the railroad was finally extended in the winter of 1891-1892, the station was not placed at Merritt, but rather a mile to the west. Whether or not the antipathy of the Merritt family had any part in this decision is a matter of conjecture, but it was the first contributing cause of the failure of this frontier town.

It was said that Merritt "was doomed to die" as a result of the establishment of the rival town of Biwabik in the fall of 1892, and a disastrous fire which practically wiped the village off the face of the map on June 18, 1893.

The fire swept in from the southwest, missing part of the western edge but completely destroying many buildings in the village. Volunteers in Biwabik, working nearly to exhaustion, were able to save Biwabik from the ravages of the fire. "Every building had a person or more on the roof with a pail of water and a gunny sack or a blanket ready to put out any fire that might start." The fire equipment of the time was a farm wagon with a fire hose and it was used all day to hold back the fire. When evening came, a good part of Merritt had been destroyed but Biwabik had been saved. The fire only added to other disturbing problems in Merritt: lack of rail facilities, the location of most of the ore bodies to the west, and the rapid growth of Biwabik. The old frontier town soon disappeared; buildings that had escaped the fire were dismantled for the wood, other buildings were moved into Biwabik.

If one were to go to the site of Merritt in the summer, he would hardly be aware that a town once existed on that spot, the buildings being completely gone and the streets covered by a tangled growth of bushes and shrubs. However, when the winter snow covers the ground and the landscape is simplified all the streets appear again as if by magic, and one may walk down Central Avenue or Main Street and point out where once stood the Gary Hotel or the Svea House.

Moving the Range towns

As mines developed on the ranges, small communities sprang up near the mine shafts and open pits; tar-paper, rough-lumber shacks gave way to permanent homes, stores, saloons, and public buildings. With few exceptions, towns and locations grew haphazardly, with no planning except perhaps for the designation of a "main street." Towns often sat on the richest iron ore deposits in the area as mining companies and property owners soon discovered. And the inevitable happened: the town and its inhabitants moved or were moved, willingly or unwillingly. Mineral rights took precedence over surface rights;

(far left) *A Gala Moving Sale was held when North Hibbing was moved to make way for the Hull-Rust-Mahoning Mine expansion.*
(center) *Moving a church from the North Hibbing townsite.*
(below) *Victor Power, Mayor of Hibbing*

companies' rights over citizens' rights; public needs over private rights. The story of the range is a story of impermanence. And after eighty years in the courts, the controversy of "public needs versus private rights" is no closer to final deposition on the Iron Range than it is anywhere else in the country.

A few of the early relocations were simply abandonments of settlements by-passed by the railroad lines. New communities under new names sprang up next to the tracks; Merritt *(see page 113)* disappeared into Biwabik; Aurora and Eveleth, begun on one site, began again a mile or two away. Some early locations like Old Mesaba *(see page 111)* and, later, Old Babbitt, were abandoned because the ore bodies either were not as rich as those elsewhere or were unprofitable to mine. A few small locations like Genoa and Elcor just gradually disappeared as homeowners left, moving their houses to nearby towns, tearing them down, or vacating them if they were company-owned.

Sometimes well-established towns were moved in their entirety, when the mining companies decided to mine the ore on which the town originally sat. From 1908 to 1910, the buildings of Old Sparta were hauled to lots in Gilbert.

The biggest move, creating great conflict and bitterness, was the relocation of well-established North Hibbing. Now public officials and private citizens began to oppose the power of the mining companies, asserting their rights in the larger question of individual versus company, of private right versus public interest.

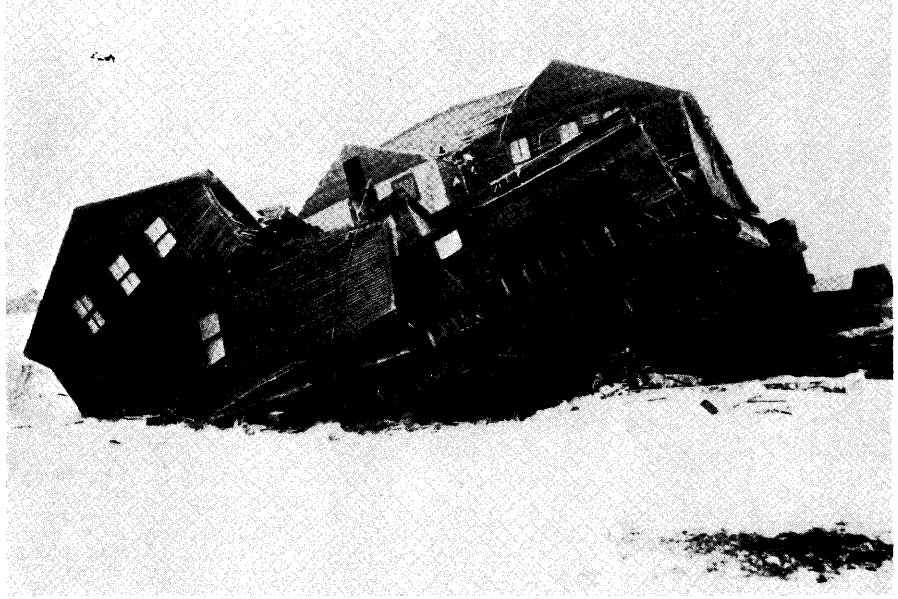
When Hibbing was incorporated as a village in 1893 and lots were offered for sale, the original landowners reserved the mineral rights on those lots, as they did in all of the Range towns. Mining companies acquired these rights as small companies sold out to larger ones, with the Lake Superior Consolidated Iron Mines (later a part of the United States Steel Corporation) acquiring most of the mineral rights and the Oliver Iron Mining Company becoming the operating company.

To the original eighty acres that made up the plat of Hibbing, Pillsbury Addition and the Southern Addition were added in 1896 and in 1902, respectively.

Quick expansion of the open pits merged them into one large pit on the north, west, and east sides of Hibbing. "Oliver" then stripped the East Forty and began mining it, cutting through village streets and access routes. Citizen resentment grew; anger boiled up and eventually led to the community's seeking a court injunction through a private citizen case in 1912. The goal: to stop the company from pursuing mining activities destructive of citizens' property. The company's response: it closed the Hull-Rust and the Burt-Sellers Mines, throwing hundreds of miners out of work.

The village of Hibbing refused to order the property owners to vacate the streets of the East Forty, but the district court did so. The judge, in awarding damages to property owners, stated that they had overvalued their property; that business property was more valuable than residential property; and that certain sections of the Forty were more valuable than others. Citizens complained bitterly about unfair treatment and the lack of compensation to the village for street damages. W. J. Olcott, president of Oliver, and D. G. Kerr, vice-president of U. S. Steel Corporation created confusion by suddenly announcing that they did not, after all, intend to operate on the West Forty and that rumors concerning the moving of Hibbing were unfounded.

Under Victor Power, Hibbing's ten-term mayor, the city began now to make major improvements financed



(left) *The Sellars Hotel collapsed while being moved from Old Hibbing, 1921*
(below) *Biwabik, Minnesota 1978*

by increased taxes on the mining companies. Under Power's direction, Hibbing became a showcase city with its million dollar high school, its public buildings and city services. The mining companies formed the Lake Superior Tax Association to prevent what they considered excessive spending by the city, but Power refused to enter a legal agreement with the association to limit spending. The mining companies now refused to pay their 1915 taxes, a move viewed by many as a ploy to discredit Power and to reduce the property values of the North Forty. Power then reminded the state auditor that he could seize mining company property for failure to pay taxes on state land mineral leases. State examiners investigated Hibbing's legal records. The scuffling ended when Power and the superintendent of Oliver came to an agreement and the companies paid their taxes.

But in 1915, state audits of the village books led to charges of graft and fraud against village officials and citizens. A grand jury investigation handed down six indictments against Power. Citizens claimed a conspiracy of state, county, and local officials to "get" Power and gain their ends. Governor Burnquist then ordered a new investigation which led to a grand jury's dismissal of some earlier charges, but a court trial in 1917 resulted in a judgment of malfeasance, misuse of funds, and neglect of duty against village officials. A 1920 audit of village books, requested by Power, led to the conviction of two village treasurers.

World War I increased the demand for ore with the resultant increase in mining activity. A new superintendent for Oliver, Michael Godfrey, stated that businesses in Hibbing's North Forty had asked the mining company to help them move and that a Forty in the south—the Larabee Forty—had been deeded to the Lebanon Iron Mining Company, a subsidiary of United States Steel. Godfrey then announced that the company had purchased the Larabee Forty and would sell or exchange lots, and that it wanted to build a hospital, a hotel, and business there. The Hibbing village council acquired land for utilities. In July, 1918, the council accepted Central Addition (the Larabee Forty) as part of Hibbing with no vote of the citizens. The city extended water and sewer lines to the new addition. After all this, Oliver President Olcott stated that the mining company had no interest in mining the remaining land of North Hibbing. The Mesaba Railway Company moved its streetcar tracks, a move approved by the Railroad and Warehouse Commission with the public not being informed of a hearing on the matter. The company offered to buy the properties in North Hibbing, including the village hall. Merchants and residents of Pillsbury Addition and South Addition requested a court injunction to stop the village of Hibbing, the Mesaba Railway, and Oliver from moving the citizen's public buildings, removing the streetcar tracks and destroying the streets. The petition was denied. The Great Northern Railroad then tore up its tracks and Oliver began mining there immediately. In December, 1921, the village council authorized the sale of all village-owned properties in the North Forty and the deeds went to the Oliver Iron Mining Company, which now owned the entire original townsite of Hibbing. Opposition had been cowed; North Hibbing was dismantled and relocated for the convenience of the mining companies.

When an out-of-state developer proposed a housing project on Merritt Hill, Pickands-Mather Company informed the Biwabik city council of its intention to mine there. The city council then passed an ordinance prohibiting mining there as not being in the best interests of the citizens. The mining company then initiated discussion with the city council and the public about moving the whole city. It asked the council to survey the citizens' feelings about relocation. The majority of respondents, residential

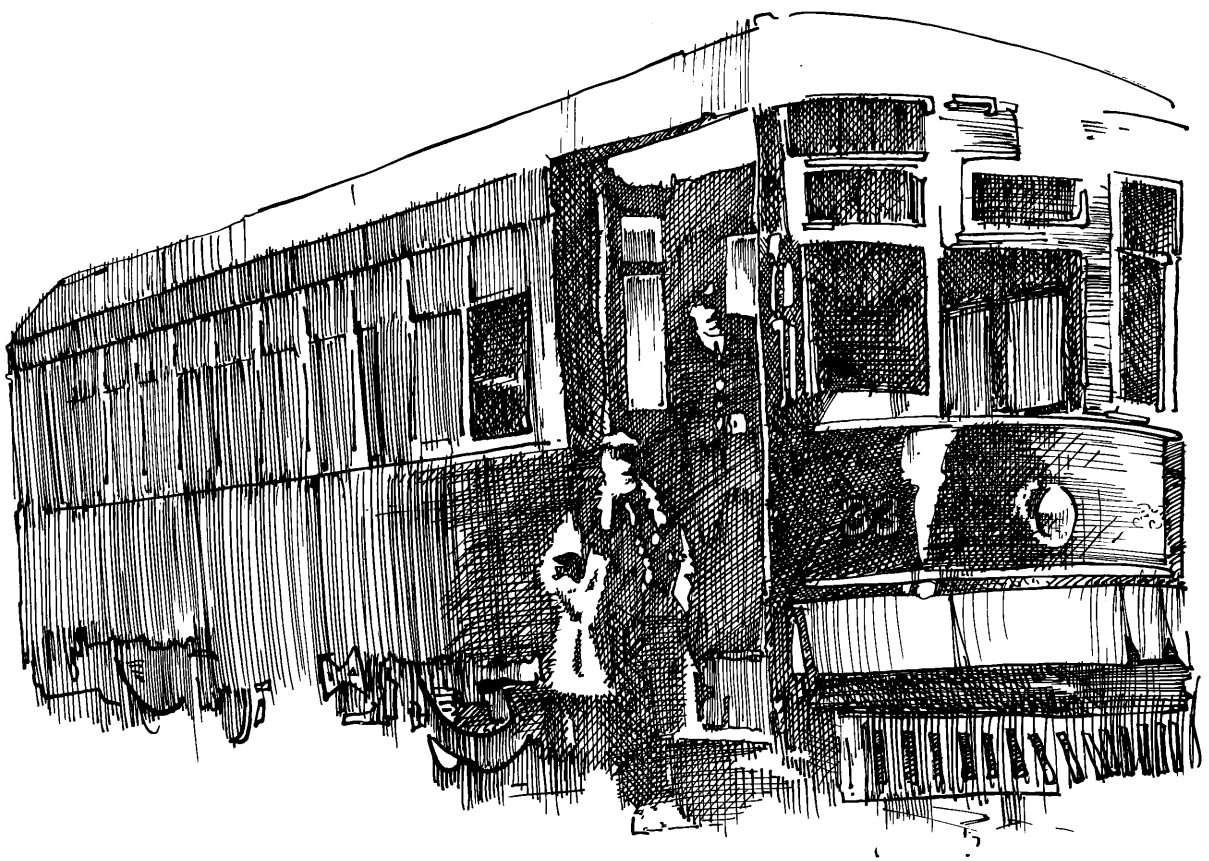
Iron Range moving days are not over. This home is being moved to make way for mine expansion of the U.S. Steel Minntac Mine in Mt. Iron.

and commercial, favored moving. Some homeowners favored moving their houses to the new site; others preferred the construction of new homes. Many residents, however, indicated a desire to move to a different community, rather than to a new Biwabik. The actions of the mining company in revealing its plans and a feasibility study totally outlining a new, modern Biwabik, have helped head off the bitterness and confusion of earlier relocations. The citizens, in this case, expected fair treatment from the mining companies and were virtually ready to move, when the old town was granted a reprieve.

Moving days are not over, however. The presence of ore under communities presages doom. Impermanence is a factor of life on the Range; small homeowners and merchants are still expendable. Mining operations creep toward existing towns; rural properties adjacent to taconite tailings basins are gobbled up as companies expand.

What remains of Franklin Location, at the east end of Virginia's main street, will vanish within a year or two. Occupants of the company houses were given the option of buying the houses and moving them or tearing them down. The re-routing of the state highway around McKinley signals the beginning of the end for McKinley. Mt. Iron uneasily watches the mining operations in its backyard.

Private rights versus public needs has not heard its last debate.

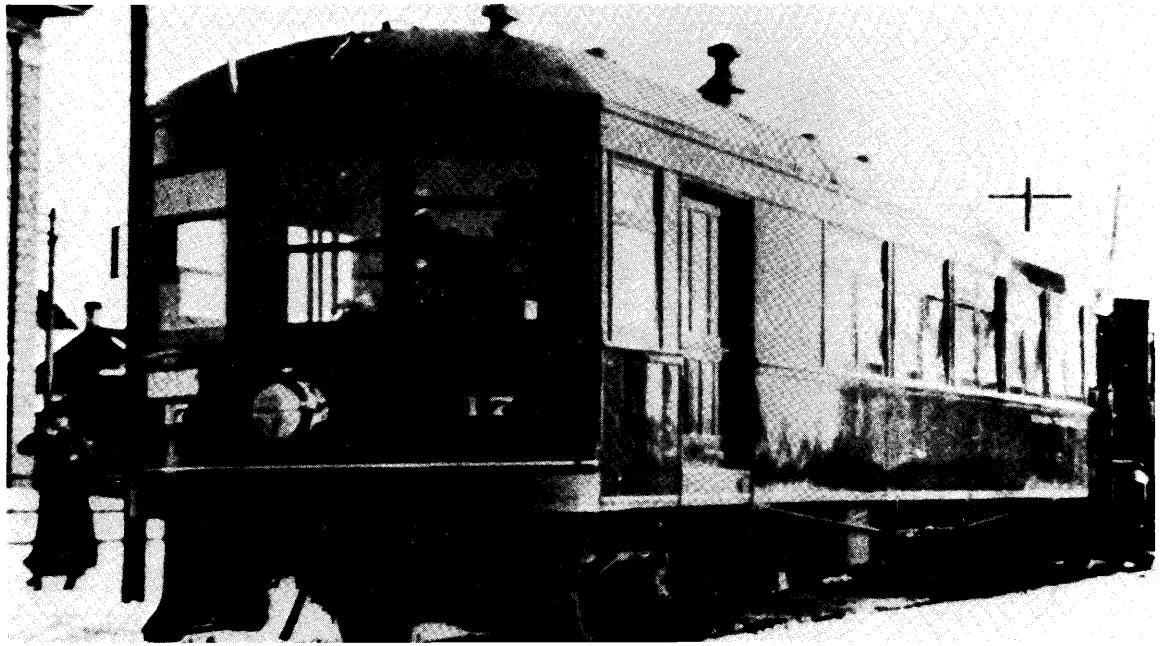


Iron Range Country: going places

The Interurban Electric Line
(Mesabi Railway Company)

By 1910, the Mesabi was a hubbub of activity! Mines developed practically overnight, towns, villages and "locations" sprang up, and thousands of workers poured in to work in the mines.

Horse and buggy or wagon was the popular mode of transportation and livery stables fronted on the main streets. Automobiles were few. The closeness of the communities and the need for intercommunity and home-to-mine connections motivated a group of wealthy men from the Range, Duluth, and the East to develop a trolley system to connect the Range from Gilbert to Hibbing.



Interurban Electric Railway Car

The Conductor's Coat

Photographs of electric railway trainmen usually show the conductor wearing a coat jacket fitted with a multitude of pockets. The Mesaba Ry. was quite particular about how these pockets were to be used and issued specific instructions on what was to go where.

Trousers
- *right front pocket: register key and switch key*
- *left front pocket: silver dollars*
- *watch pocket: currency*

Vest
- *right upper pocket: watch*
- *left upper pocket: pencils*
- *left lower pocket: coupons*

Coat
- *right upper pocket: unfilled ticket and coupon envelopes*
- *right middle pocket: punch*
- *right lower pocket: half-dollars*
- *left upper pocket: pass pad*
- *left middle pocket: tickets*
- *left lower pocket: hat checks*
- *inside upper right pocket: timetable, tariff sheet and excess baggage checks*
- *inside upper left pocket: filled ticket envelopes*

A miniature street railway system in the show window of Alexander Reid and Company attracts the attention of some of the youngsters—and some who are not so young. No franchise had been obtained by the firm for the operation of the system, which is electric, but requests will be made later if considered necessary.

(Virginia Enterprise
Friday, December 8, 1911)

In July, 1912, the first rails were laid on the new "Mesabi Railway Company" as the street car line was called;

Streetcar Line Stringing Starts
Last Lap in Construction Work Reached

Large Crew of Mechanics Make Rapid Progress—Here and in Substation in Chisholm—Many Hand Car Trips Already Made Over New Line—Railway Company Advertises for Motormen—Streetcars Should Be Running Next Month.

A large crew of men are now working in this city on the streetcar line stringing wires on the iron poles already erected on the local thoroughfares. The mechanics are making rapid progress and expect to complete the local stringing this week. Large crews are working at intermediate points on the line in the stringing work and should have all the wires up by the middle of the month.

(Virginia Enterprise
December 6, 1912)

On Christmas Eve, 1912, the first car left the car house on Virginia's "North Side," parked in front of the depot on Wyoming Avenue (now Third Avenue), and at 4:45 A.M., amidst a crowd of cheering Virginians, left on the eight-mile run to Gilbert with a Finn paying the first twenty-cent fare. Conductor A. Matson, and motorman Peter Martenson were Swedes who had worked on the Duluth-Superior streetcars. The new line even had a pilot—C. W. Kenny. On Christmas Day two-hour service was begun between Gilbert and Buhl.

List of Out-of-town Shoppers Increased by Streetcar Advent

Dr. and Mrs. Charles W. More, Eveleth, were among the out-of-town shoppers visiting in Virginia Saturday afternoon. The bargains displayed by local merchants and the fact that local dealers are carrying large and assorted stocks of merchandise

has resulted in scores of residents of surrounding towns doing their holiday shopping in this city. With the advent of the streetcar line the local merchants believe the usual dull January and February trade will be greatly strengthened, as many range residents who have heretofore never visited Virginia stores will come to this city to do their shopping.

(Virginia Enterprise
December 27, 1912)

Popular demand led to the building of an additional line from Buhl to Hibbing with six cars providing hourly service. By 1914, the same schedule required only four cars.

H. O. Bergeson, auditor and assistant treasurer described the new modern service:

. . . high speed, electric steel cars, forty feet in length, seating capacity forty-eight . . . hot water heated and with smoking and baggage compartments and toilet facilities . . . the car bodies were built for protection in extreme cold weather during the winter, being equipped with double side walls sheathed outside with one-eighth inch by thirty-four inch steel plate, cork insulated and removable storm sash. The interior finish was dark oak with white ceiling and forty watt lights over each seat making it possible to read without eye strain . . .

Headquarters on Virginia's north side consisted of a large car barn and an attached paint shop and office. Electric power came from a powerhouse near the Rainy Lake Lumber Company saw mill site.

Fares were ten cents to Eveleth, twenty cents to Gilbert, five cents to Parkville, ten cents to Mt. Iron, and fifty cents to Hibbing. (Miners made about two dollars a day in wages.) Cars often reached a speed of forty miles an hour. Collisions with people, cars, trucks, cows, pigs, chickens, and even other trolleys were numerous, and the conductor was given demerits if he took the car out of the barn without the cowcatcher attached. The stations, often candy stores, were frequently robbed, and during Prohibition, "Feds" searched the cars while liquor bottles hung on strings outside the window!

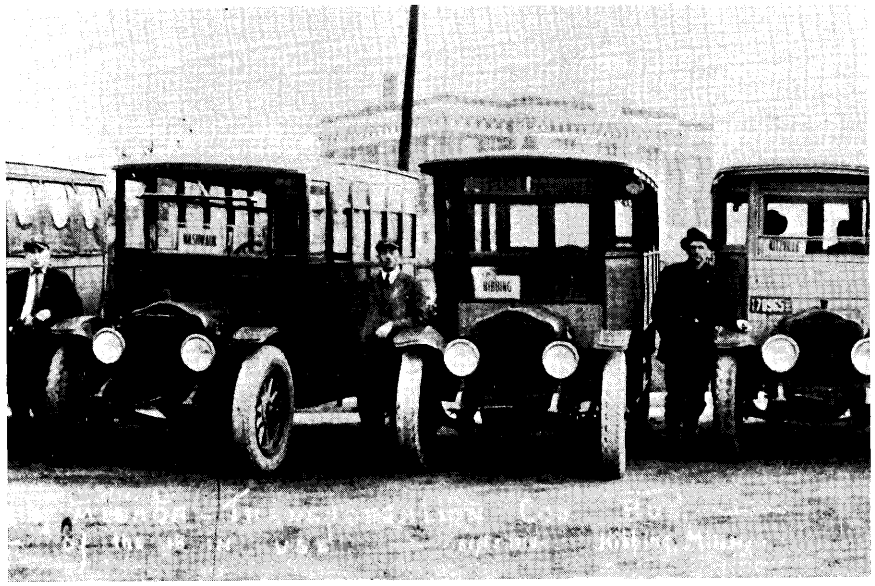
By 1920, concrete highways paralleled the interurban lines, and automobile and bus competition cut severely into the streetcar ridership. Finally, on April 16, 1927, the line shut down, and the $100,000 building in Virginia was sold to the Minnesota State Highway Department for $15,000. From town to town, the area between the tracks was paved. But the line had served its purpose, and in addition had helped to unite the disparate Range communities.

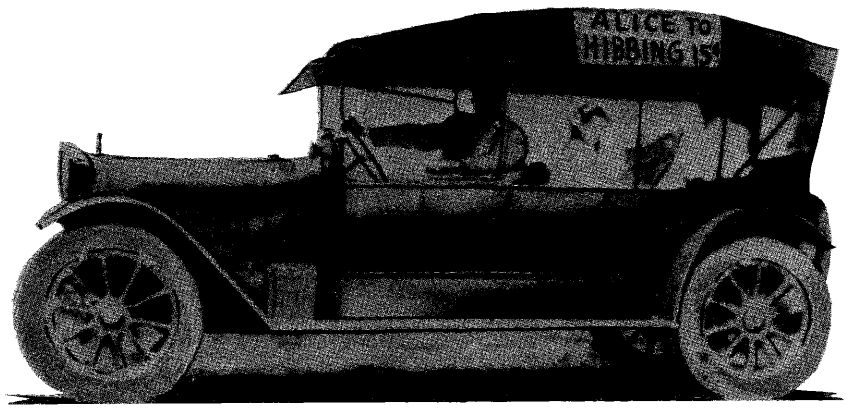
Hibbing to Alice: Fifteen cents
The beginning of the Greyhound Bus Lines

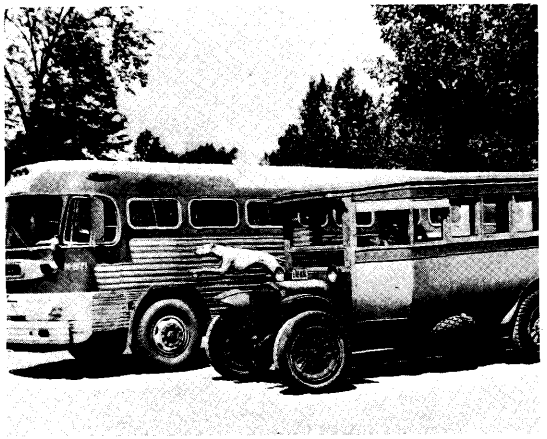
The interurban electric streetcar ran exclusively between Gilbert and Hibbing on a fixed schedule. Private automobiles were out of reach of miners making a little over two dollars per day. The old board sidewalks were limited, and though there were many railroad lines and spurs, commercial hauling of sawlogs and iron ore was so profitable that passenger rail service suffered.

Yet, as mining activity expanded and mine locations moved, forcing people to live farther from their work, the need for some kind of public transportation system became apparent.

A young Swedish immigrant, Andrew Anderson, who had worked hard at the Gust Carlson Exploration Company repair shop for seven years without a single raise in pay, saw the possibilities the automobile offered. He quit his job, and, with a partner, bought a Hupmobile, hoping to sell it at a profit. Many people were interested in test-driving it, but







(top right) "Bus Andy" with his first bus
(top left) Mesaba Transportation Company buses with drivers, 1918
(above) One of the first buses alongside a 1960 model Greyhound Bus

no one bought it, and one day, in desperation, Andy hung a sign on it: "Hibbing to Alice, fifteen cents." Bu the end of the day he had made seven dollars and fifty cents in passenger fares! He quickly set up a daily schedule, with himself as driver.

Seeing the success of this first "bus," others started rival services, often scheduling their stops ten minutes before "Bus Andy's" to snatch up his passengers! But Andy's company survived, beating out such competition as Vic Powers, mayor of Hibbing.

In 1915, Anderson, with a new partner, Carl Eric Wickman, formed the Hibbing Transportation Company with Fred Linbergh, Andy's uncle who was responsible for getting Andy to the United States, as president The five officers of the company were the five drivers, and they extended the line to Nashwauk and surrounding areas.

Soon the cars were too small; the company bought truck chassis and brought in Swedish cabinet makers to build the bodies. They expanded east to Gilbert to compete with the Mesabi Railway Company and south to Duluth to compete with the D and IR Railroad. Soon the Great Northern Railroad and the Mesabi Railway Company were buying busses to compete with Andy's Hibbing company!

Now Carl Eric Wickman decided there were too many busses. The Hibbing Transportation Company broke up and Anderson started the Mesaba Transportation Company which continues to the present, with his son-in-law as owner.

In 1925, Wickman bought out a line known as the Greyhound Bus Line from an ex-Hibbing driver, Ed Eckstrom; over the next twenty-five years, Wickman engineered the huge national network of the Greyhound Corporation, holding the post of president until 1956.

Beginning on the eve of the First World War, when Iron Range immigrants ran single jitneys "from nowhere to nowhere," these families played an important role in developing modern cross-country motor travel. Their busses plowed their own roads in winter, encouraged the development of highway systems, and even improvements in automobiles often came about because of improvements first made to busses to increase the comfort of long-distance overland travel.

The Railroads

Minnesota's two iron hauling railroads — the Duluth and Iron Range (D.&I.R.) and the Duluth Missabe and Northern (D.M.&N.) combined in 1938 with the creation of the Duluth, Missabe and Iron Range Railway.

In 1887, a financial syndicate gained control of the Duluth and Iron Range Railway and its Vermilion and Two Harbors facilities.

In 1894, John D. Rockefeller gained control of the Duluth, Missabe and Northern by calling in debts owed him by Duluth's Merritt family. By 1901, Rockefeller had transferred his interests in the railroads to the newly formed United States Steel Corporation, a giant conglomerate which ultimately dominated all aspects of iron range mining and transportation.

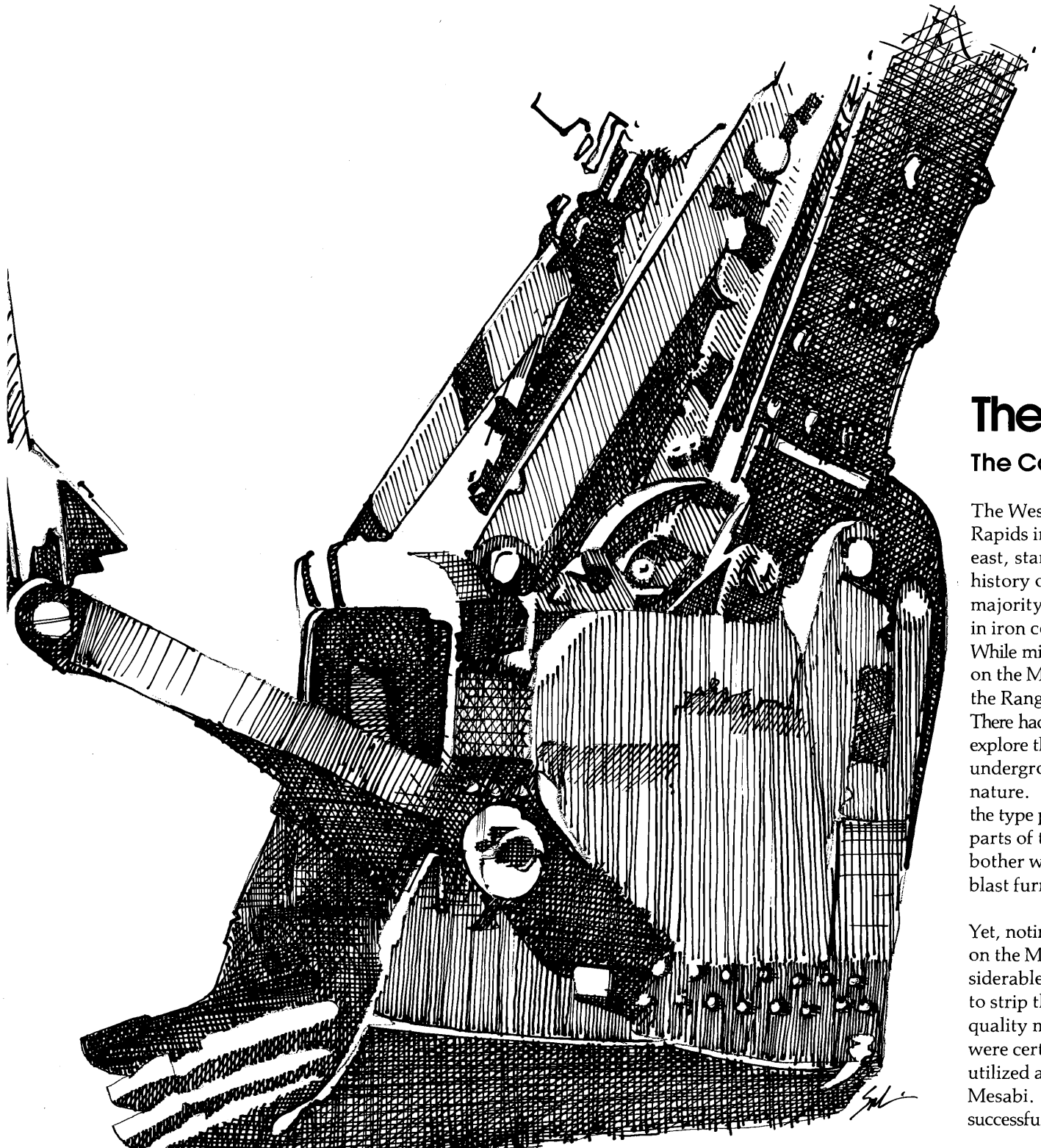
Although under common ownership, the D.&.I.R. and the D.M.&N. continued to operate as separate companies. And both grew and prospered as the region's iron industries expanded.

Both roads carried record tonnages on an almost annual basis and both diversified by carrying passengers, general cargo and large volumes of timber.

With the approval of the stockholders and the federal Interstate Commerce Commission in the summer of 1938, the D.&I.R. and the D.M.&N. became the Duluth Missabe and Iron Range Railway. But to this day the old lines retain some of their former identity by maintaining two district operating divisions, the Iron Range and the Missabe.

Since the first trainload of Minnesota iron ore moved over the D.M.&N. tracks in 1884, the railroad has hauled almost two billion tons of ore to the Duluth and Two Harbors docks.

Hauling taconite pellets on the Mesabi Range by the Duluth, Missabe & Iron Range Railroad, 1978



The Western Mesabi

The Canisteo District

The Western Mesabi, extending almost to Grand Rapids in the west and almost to Pengilly in the east, stands quite apart from the development and history of the rest of the Mesabi Range. Here the majority of the iron ore was of poor quality—low in iron concentration, soft, and laden with sand. While mining operations were in full swing elsewhere on the Mesabi by 1900, the westernmost section of the Range remained largely deserted and ignored. There had been a few drilling attempts made to further explore the ore bodies and even some efforts to open underground mines, but nothing of a practical nature. With an abundance of rich, hard ores of the type preferred by the smelters available on other parts of the Range, there seemed to be no need to bother with low-grade, sandy ore that clogged the blast furnaces.

Yet, noting the great fortunes being made elsewhere on the Mesabi, two Duluth entrepreneurs of considerable vision concluded that it was shortsighted to strip the Range of its best ore leaving the poorer quality material untouched. At some point, they were certain, the lower grade ore would have to be utilized and would greatly extend the life of the Mesabi. Besides, ore of poor quality was being successfully mined in other parts of the country, and

probably a method could be devised to remove some of the sand to bring the iron concentration of the western ore to the desired sixty per cent level. The two Duluthians began acquiring title and mining rights to land on the Western Mesabi, and there they launched an ambitious project.

In the early 1900s, they opened an underground mine and hired a mining engineer from the east to begin on-location experiments to find a method of concentrating the ore. One of these Duluthians was originally from New York, and in an interesting geographical transfer, chose for the new mining company the name "Canisteo," derived from the Seneca Indian word "Te-car-nase-teo," meaning "head of navigation." It was an appropriate choice since the mine was located not many miles from the town of Grand Rapids, the northernmost point of navigation on the Mississippi River.

Soon the Canisteo owners realized that they were struggling against formidable odds in their efforts to begin large-scale mining in an undeveloped wilderness. Transportation was a major problem, and it also became apparent that finding a low-cost method to remove sand from the ore would involve considerable research and expense. At that crucial point, one of the major figures in the history of the Western Mesabi entered the scene.

Thomas F. Cole

Thomas F. Cole is a prime example of a "Horatio Alger" story. His father was killed in a mine accident, and at the age of eight, Cole became the major support of his mother and his younger brothers and sisters. Through the next years he worked at various low-paying, menial jobs, attending school at night. His industry and ambition paid off; in his early twenties, Cole was placed in a management level position, and then was appointed to direct a small mining operation, becoming known as the "boy superintendent." In 1902, at the age of forty, he became President of the Oliver Iron Mining Company. It was a long way from rockboy in a Michigan mine to the presidency of the world's largest iron mining company, with responsibility for 20,000 employees!

One of Cole's first actions as president was to move the headquarters of the Oliver to Duluth so as to be more centrally located between the mines of Michigan and the ever more important Mesabi. In Duluth, Cole was soon well acquainted with the developers of the Canisteo Mine. Hoping to turn their expensive operation over to a company with

Thomas F. Cole

John C. Greenway

Athlete, Soldier, Patriot

John Greenway High School, Mine, Park, Town Hall, and Township. John Campbell Greenway was a colorful figure who shaped the Western Mesabi Iron Range.

Born in 1872, the son of a doctor, Greenway's upbringing was in the old-fashioned, gracious southern manner. He attended preparatory school at Phillips Academy in Massachusetts, and then was admitted to the Sheffield Scientific School of Yale University.

After graduation in 1895, Greenway obtained employment with the Carnegie Steel Company in Duquesne, Pennsylvania. When the Spanish-American War began in 1898, the armed forces of the United States, woefully unprepared for conflict, made an appeal for volunteers. Greenway decided to offer his services to the cavalry regiment being formed in Texas under the direction of Colonel Leonard Wood. Theodore Roosevelt had joined that regiment and would soon be playing a major role in the Rough Riders.

Greenway went to Texas with a nationwide reputation as an outstanding college athlete, and Colonel Wood accepted him into the regiment without hesitation. A few days later he was commissioned a second lieutenant. Greenway met Roosevelt and the two formed an immediate liking for each other, which was nurtured into a life-long and intimate friendship.

Once in Cuba, Greenway's military record was laudable. After the famous charge up San Juan Hill, newspapers across the country carried a story stating, *"The famous (Yale baseball) catcher John C. Greenway . . . has distinguished himself as a soldier in Cuba. In the charge up the San Juan Hill on July 2nd, he was the second man to leap into the Spanish entrenchments."* Second man to the top, Greenway was the first officer behind Spanish lines and Roosevelt was quoted in the press as saying, *"I only envy Greenway. I wanted to be first there myself, but he outran me."*

Back in civilian life, Greenway returned to the steel industry finding employment with the Oliver Iron Mining Company. He continued his association with Roosevelt; after the assassination of McKinley, when Roosevelt had become President, Greenway was always a most welcome guest at the White House. What a contrast it must have seemed to John Greenway, from the backwoods of Minnesota!

In 1910, when Greenway had completed his Minnesota assignment, he accepted a position as general manager of the Calumet and Arizona Mining Company headquartered in Arizona.

In his new position, Greenway held considerably more responsibility than he had had in Minnesota. In Arizona he reorganized his new company and began utilizing the experience he had gained on the Mesabi Range.

When the United States entered World War I, Greenway was determined to again serve his country in a military capacity. President Wilson refused to allow Theodore Roosevelt to form a new Rough Rider outfit, so Greenway joined the Army Corps of Engineers as a major, with immediate assignment to France. At his request, he was then transferred to the front lines.

Once again Greenway distinguished himself in action as he fought in the heaviest battles of his military career.

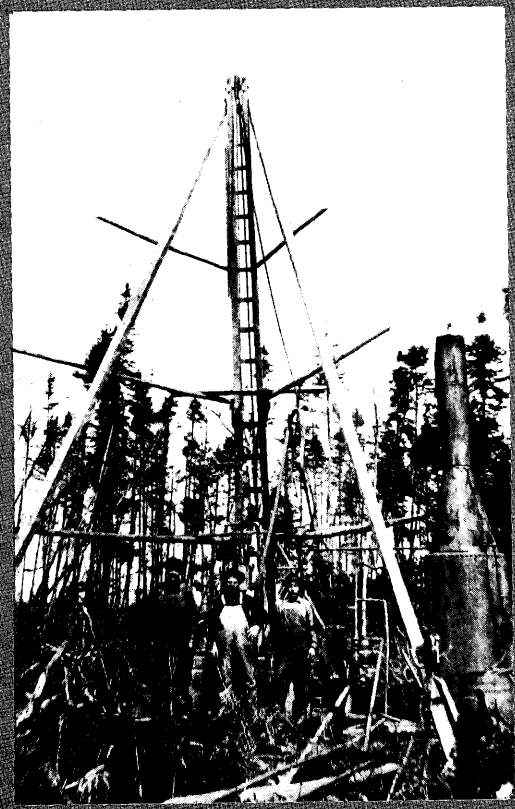
He later received a Distinguished Service Cross for "extreme heroism" and after the war, was awarded several of its highest decorations by France.

Greenway continued his remarkable success in the copper industry in Arizona and in 1921, at the age of 51, having never seriously considered marriage before, he began courting Isabella Ferguson, the widow of a former Rough Rider. They were married and a son was born. Early in 1926, with a whole new purpose in life and several great projects in the offing, Greenway was operated on for a gall bladder problem. As he seemed to be recovering normally, he suddenly died from the effects of a blood clot.

Many posthumous honors were accorded to John Greenway, and in 1930 a major tribute was paid him. In Statuary Hall in the United States Capitol, a bronze statue of Greenway, executed by Gutzon Borglum of Mt. Rushmore fame was presented to the nation by the State of Arizona.

Churn Drilling

The churn drill was driven down by percussion rather than by the diamond drill's rotating, cutting action. After every five feet, water was forced down through a second hollow rod which fit loosely inside the drill casing. When the water reached the bottom, there was nowhere for it to go other than back up between the inner rod and the casing, and it carried along the cuttings from the previous five feet of drilling. Settling tanks were used to hold the water and sediments; after a period of rest, the water was drawn off and the contents further dried, usually by boiling. What was left was bagged and labeled and sent to the laboratory where the iron content was noted.



adequate capital, they made every effort to interest Cole in the Western Mesabi. He took several days from his busy schedule to tour the area and was convinced both that the low-grade ore could be utilized and that the necessary investment should be made at once.

In 1901, the Oliver Iron Mining Company had become a part of the huge, newly formed United States Steel Corporation. Consequently, since Cole estimated he needed ten million dollars to open the Western Mesabi—a sum, incidentally, greater than any other single investment the Oliver had made—it would be necessary to convince the rather conservative directors of the great steel trust that the project was feasible and indeed, needed. Although he faced opposition and much tough questioning, Cole was successful. He returned to Duluth, created the new Oliver Canisteo District on the Western Mesabi, and began making immediate plans to open the vast sandy ore deposits there.

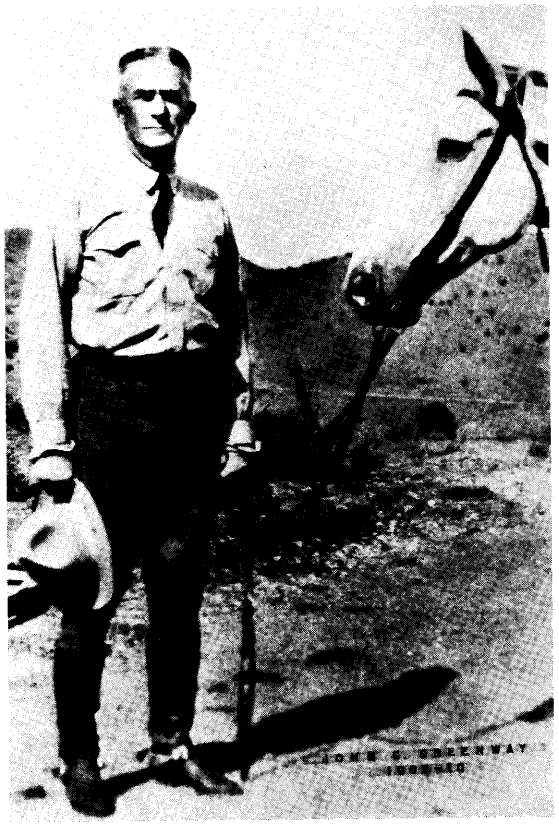
Beginnings

As general superintendent of the new venture, Cole chose John Campbell Greenway, who, at the age of thirty-three, was the youngest person to be appointed to such a position.

Greenway at once began planning his offices, shops, yards, etc., on "a broad and liberal scale." But, as much as he may have enjoyed that task, he knew that the Canisteo ore would remain useless until a method could be devised to concentrate the iron content. On the very day of his appointment he wrote to a friend in Alabama requesting information on ore washing techniques used there, and then plunged into researching and studying concentration methodology.

John Greenway arrived in Minnesota in the late spring of 1905. By this time, the use of the diamond drill with its resultant core samples clearly delineating underlying geological strata was in widespead use across the Mesabi. On the western end of the Range, however, the diamond drill proved to be of limited use. Soft and sandy ore did not lend itself to the taking of neat core samples (it simply ran out of the drill casing when lifted), and consequently a less satisfactorily method called churn drilling was utilized.

Even though there were no neat core samples to examine and the method was not as precise as diamond drilling, general assessment of the amount and location of the ore could be made.



John C. Greenway, 1908-1910

The exploratory work confirmed the fact that the ore of the Canisteo District was poor — thirty-five to fifty-five per cent iron. But there proved to be even larger quantities of ore than had been anticipated and the decision was made that open-pit mining was justified, even with the large attendant expense of removing some eighty feet of glacial drift.

As the preliminary work was proceeding and as the offices and shops were constructed, transportation remained one of Greenway's major headaches. There was just one road which led into the Canisteo District, connecting it with Grand Rapids.

The Impossible Diamond Trail

The "Diamond Trail," as it was called, was described as one of the worst of roads in country that had nothing but bad roads. There were holes, ruts, and stumps at frequent intervals and the few improved places with patches of corduroy were among the most impossible spots. In many places it was more of a trough than a road and according to one contemporary account, "it inspired more profanity than any stretch of road before or since." In a newspaper article it was stated that there lay on that road *"the curses of 10,000 men and the bleached bones of hundreds of horses done to death while plodding heavy-laden through mud-filled holes and over rocks and stumps."* It was commonly agreed that any Duluth travelling salesman who "could really take it" was bound to lose at least three pounds going between Grand Rapids and the Canisteo headquarters, while any eastern capitalist, if he made it at all, would lose twenty-five.

By the end of 1905, eighty per cent of the freight arriving by rail in Grand Rapids was destined for the Canisteo District and had to be hauled in over the Diamond Trail. The task was made considerably easier after the onset of cold weather when sleighs could be used. Over one hundred teams, mostly of four horses, were locally hired for toting during the winter of 1905-1906. An average-sized load was four to five tons, but the record was a single load of almost eight tons. On a usual day, over one hundred tons of goods moved from Grand Rapids to the Canisteo District, but when spring came, the road was in worse shape than ever and if four horses could make it with a half-ton, it was considered a good job!

During the summer of 1906, the **Duluth Herald** reported that "Gigantic Operations" were about to begin on the Western Mesabi. A crucial factor was

Bovey, 1906

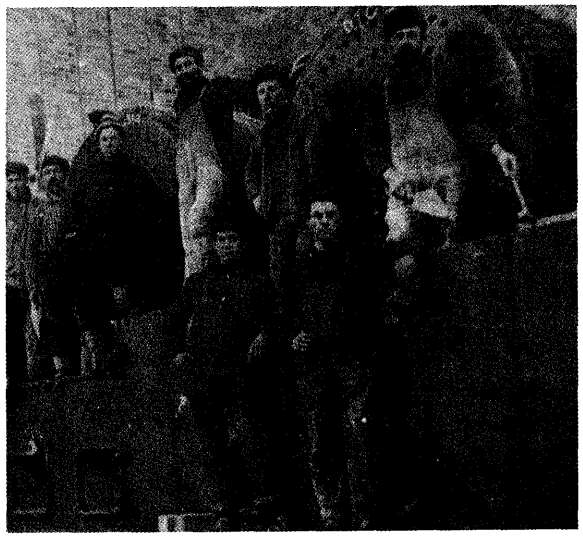
the completion of a railroad line. Transportation difficulties ceased. Ninety ton steam shovels were among the first cargo delivered on the newly completed line, and in a dramatic moment, the first shovel took the first bite of earth from the Canisteo District on the afternoon of June 22, 1906. By mid-August, five of the huge shovels were in motion around the clock, removing thirteen million cubic yards of overburden to get at the iron ore underneath.

A Tale of Two Villages

Even today the most casual of visitors to the Western Mesabi can sense a difference of character in the adjacent towns of Bovey and Coleraine. And indeed, seldom can two such closely neighboring communities have had such widely diverse origins.

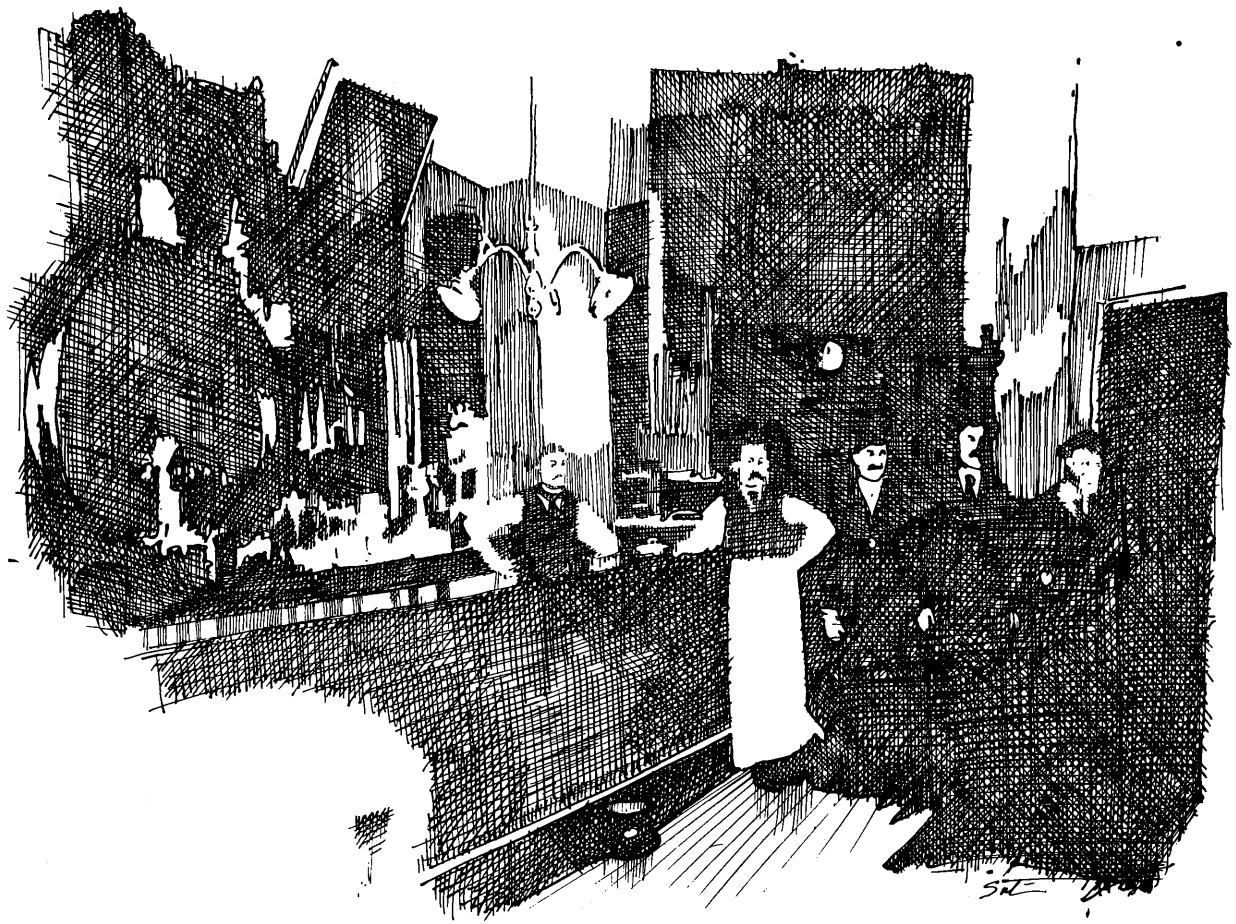
Aside from a few loggers in their temporary camps, before the early 1900s there was little population in the area between Nashwauk-Keewatin and Grand Rapids. Only after rumors spread that Oliver intended to initiate large-scale mining in the area did men begin drifting in, hoping to find employment. Many others intending either to serve, or to prey upon the prospective workers, were also quick to arrive. Seeing an opportunity to sell real estate, several entrepreneurs (including lumber magnate Charles A. Bovey and famous Mesabi drillman E. J. Longyear) chose a site near Trout Lake and platted a town they named Bovey. The place was incredibly isolated because of the difficult Diamond Trail, but still it grew rapidly and in the late summer of 1904, less than four months after the first lots were sold, the town was incorporated. A reporter for the **Duluth News-Tribune** arrived to inspect the village and even as he crossed Trout Lake and neared the Bovey landing, he could hear the constant ring of hammers coming from the townsite. As he arrived in the village, he noted:

A long succession of hurriedly erected structures greets the eye . . . As the population is increased at the dawn of each succeeding day it is difficult to obtain anything like correct figures on its population. Last Tuesday the population was about 400.



Saloon Town

From the beginning, Bovey acquired a reputation as one of the wildest of the Range boom towns, catering to the needs and desires of the uprooted men arriving on the Western Mesabi. There were no Bovey establishments that were more frequented than the saloons, crowded with drillers, miners, drifters, and an occasional lumberjack. Men often



lined up several rows deep before the long bars while the barkeepers deftly dispensed great quantities of beer and liquor. A "booster" was hired to keep an eye on the room, and should the buying ever lag, his voice rang out, *"Don't forget the gentlemen behind the bar,"* and that was usually enough to generate renewed buying activity. The free lunch—highly salted—was always available, and peddlers stopped by with sausages or taffy.

As would be expected, the Bovey saloons were noisy with crude language and disorderly behavior. No one worried much about the state law which called for an eleven o'clock closing hour, and the saloons were often swinging far into the night.

During those first years Bovey was one of the few towns left in the State of Minnesota to permit open gambling. Roulette wheels were found in many of the saloons; poker, faro, and klondike were popular games and slot machines a common sight. Professional gamblers arrived in considerable numbers; many a drillman lost his week's pay.

Prostitution was also a thriving business. The first village council ordered the "house of ill-fame" on the main street to be moved elsewhere, but no effort

Bovey, 1911

was made to limit or prevent such establishments from operating in other places in town. A little girl who sang and danced in the Bovey saloons and occasionally delivered bakery goods to some of the houses recalled many years later how impressed she had been by the "scarlet ladies" with their bright dresses and artificial roses behind their ears. She recalled "landlady" Maggie Page, who in her full skirts with numerous petticoats was one of the few women to be seen on the streets of Bovey during this early period.

Boarding houses and hotels of varying quality were usually filled to capacity and beyond, and many people were forced to simply sleep on the floors of the saloons. The editor of the **Itasca Iron News** (which began publication in Bovey in the fall of 1905) described many of the town's inhabitants who lived in those hotels and boarding houses as looking "just plain crummy."

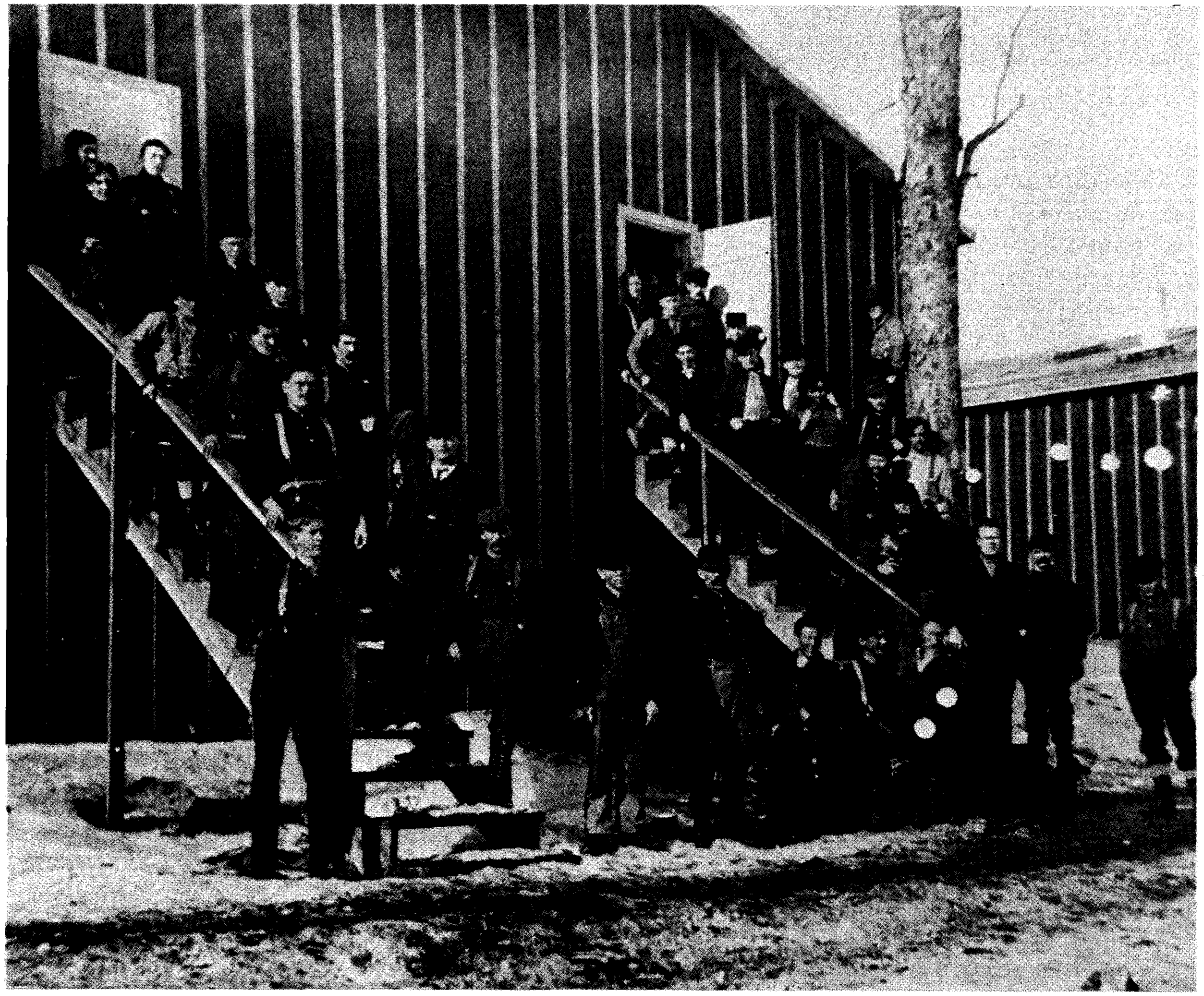
Typhoid Alley

If personal cleanliness was not one of the more prominent aspects of life in early Bovey, the town itself followed a close parallel. Bovey was incredibly filthy and unkempt and was once described as probably the dirtiest town in the State of Minnesota. Sanitary conditions are so bad that this (news) paper is ashamed to state just how rank things are. Reeking filth was to be found everywhere and in the business section of town many of the lots were "a disgrace" with "nauseating aromas arising from overrunning privy vaults, garbage, alimentary expulsions, carrion, swill, and excrement." The businessmen were advised that "beer slops, decayed vegetables, cuspidor cleaning, and restaurant swills should be carried out of town."

The lack of sanitation in Bovey was more than merely unpleasant to the eye or nostril; it was dangerous. Typhoid fever was a constant menace in the town and generally was the major factor in keeping the small hospital well-filled. From time to time the number of typhoid cases reached alarming proporations. Then the school and other buildings were used as temporary emergency hospitals while the death rate climbed.

Only gradually during the years between 1906 and 1910, under the direction of a particularly hard-working mayor, were some of the rough edges in Bovey smoothed out. Prostitution and gambling were abolished and a clean-up campaign slowly began to make its effects felt. More families moved

(below and right) *Miners and laborers were brought into the Canisteo District by John C. Greenway and housed in barracks near the mine sites, 1906*



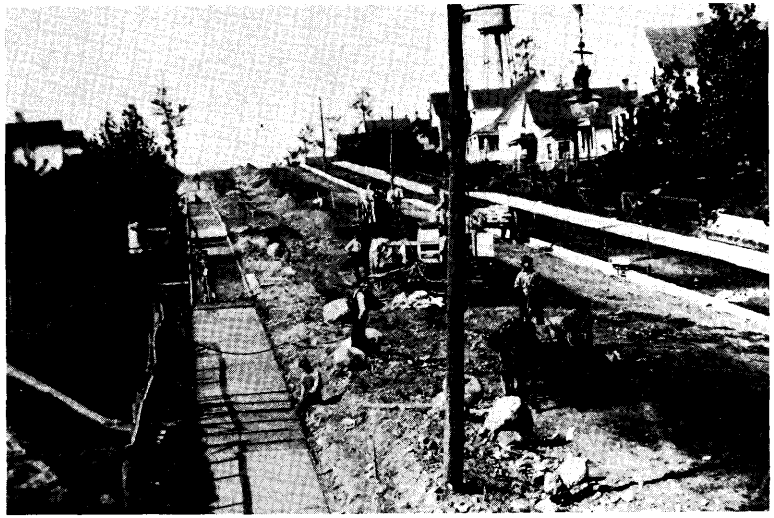
into town and the place began to take on more of an air of permanence. Nonetheless, in 1910, with a population of 1,377, there were still 23 saloons in town.

When John Greenway arrived in 1905 to take charge of the Canisteo project, it need hardly be pointed out that he did not find conditions in Bovey or the surrounding area very promising. He temporarily housed some of the skilled workers he had recruited in Michigan in the buildings of a nearby logging camp. For the future, he decided, a whole new town for the Canisteo District would be the only way to provide decent living conditions. The new town would be family oriented, expressly designed to avoid the pitfalls and excesses that had shaped Bovey. It would appeal to "the best classes of people" and would be a place where the residents could "find a contentment in their home life which the rough and uncouth mining towns seldom allow." It was also decided that it would be a company town which could be tightly controlled and regulated by the Oliver Iron Mining Company.

Starting Over

With backing from Oliver President Cole (the new town of Coleraine was named in his honor) and the

(left) *The Berg home, Coleraine, 1914*
Building sidewalks and grading streets in Coleraine, 1915



directors of the United States Steel Corporation, construction was soon underway. Since there was no department nor any personnel particularly responsible for town development within the steel corporation, Greenway had a free hand in planning his model town. For those who wished to rent at very reasonable rates, between 1905 and 1908, 106 houses of varied architectural style were erected.

Greenway even saw to it that renters could pick their own color scheme. In his words, *"Let the housewife make the choice. Happy, contented housekeepers make satisfied workmen."*

Those desiring to build their own homes could purchase lots. In contrast to Bovey where conditions were crowded and most yards were only 25 feet in width, in Coleraine emphasis was placed on large, spacious lots with rooms for trees and lawns and gardens. The usual size was 75-by-125 feet and sold for $150, a cost lower than that for real estate in other Range towns.

Near Trout Lake, land was set aside for a park, and in another part of town an athletic field, described in the **Itasca Iron News** as the "finest ball park on the Range," was quickly constructed, complete with bleachers. Greenway personally saw to the successful handling of the necessary application and arrangements for a Carnegie Library. There was also a modern, fully equipped hospital, erected and paid for by the Oliver Iron Mining Company. Churches of all denominations were welcomed, lots donated for their use. While horses were still laboring to pull wagons through the soft, sandy streets of Bovey, all the streets in Coleraine were graded and a number macadamized, with cement curbs and gutters. A large, modern school with grades kindergarten through twelve was erected for Coleraine and the surrounding district.

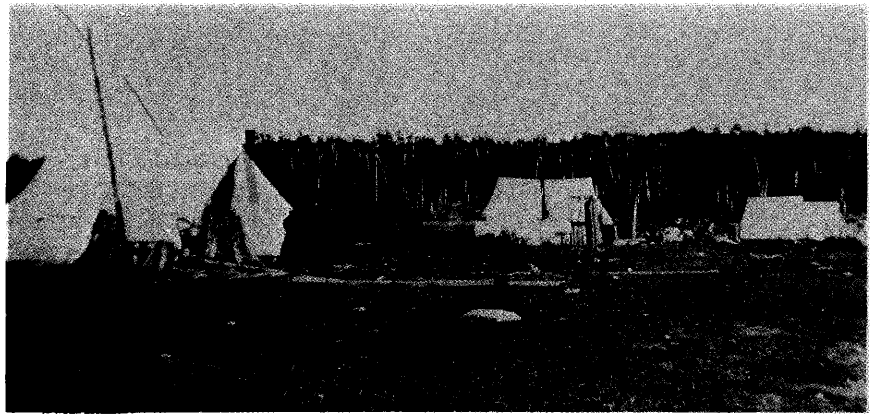
But citizens of Coleraine had no voice in the management of their community. Because Coleraine was an unincorporated, company town, there were no Minnesota laws requiring elections or any kind of citizen representation in municipal matters. For all practical purposes, John Greenway served as mayor-city council-library board-utility commissioner-secretary-treasurer-marshal. As reported in the **Duluth News-Tribune,**

"John C. Greenway is THE government of Coleraine . . . He creates the unwritten laws, oversees the construction of municipal enterprises, and exercises a gentle but firm paternalism over the community."

Greenway's direction of affairs in Coleraine was so thorough that, as stated in the newspaper article, even "when a street needs grading, John C. Greenway orders it graded."

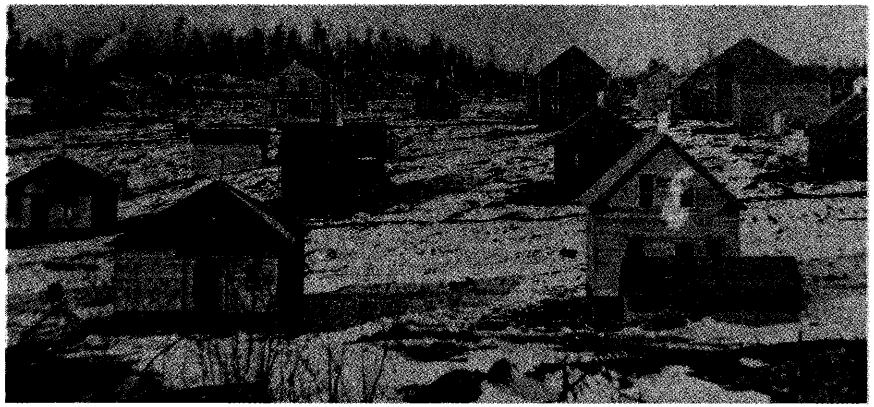
As Greenway directed the development of Coleraine, several matters were of particular concern to him. Indeed, Greenway was adamant that there would be no slot machines, roulette wheels, professional gamblers, houses of prostitution, or solicitors ("No wantons within the city limits," as the **Itasca Iron News** reported).

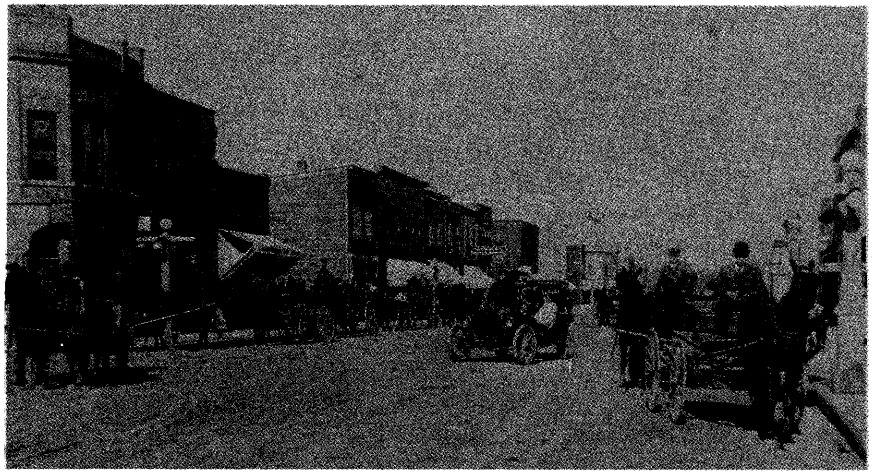
The question of having saloons in Coleraine, however, was a different story. Greenway realized that the prohibition of saloons within the city limits would not be practical; in fact, by the summer of 1907, he wanted a saloon opened as quickly as possible. Some of the citizens of the model town were ". . . going to Bovey and getting very drunk." Greenway wanted a place where the men could have their drinks in Coleraine, but where the liquor establishments would operate under controlled, enforced regulations. When the first of two saloons opened in the summer of 1907, the provisions were clear: closing time



Coleraine, 1905

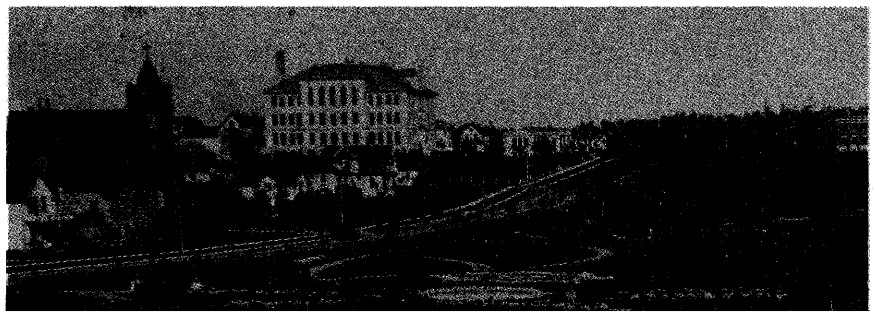
1906





1911

1914



promptly at eleven P.M., except on Saturday; remain closed until seven A.M.; serve no liquor on Sundays or other designated holidays; in the event of labor disturbances, the saloon to close immediately; no liquor to be sold to miners, to women, or to intoxicated persons; only quality liquor to be served. (In Bovey one could purchase such poison as a patent mixture of cheap alcohol flavored with tobacco juice!)

The Soda Pop Bonus

In Bovey the bartenders received bonus pay based on the amount of liquor they sold. Hoping to decrease the consumption of alcoholic beverages in Coleraine, Greenway offered his bartenders a commission for each bottle of soda pop they sold. But the bartenders' initial enthusiasm for "soda pop pushing" quickly waned, as disgruntled customers sidled off to Bovey to get what they wanted!

One of Greenway's prime purposes in building the model town was his desire to attract to the Canisteo District the "best classes of people." People who contemplated moving to Coleraine were told, "If you want lots, forward us credentials; we won't sell to anyone who doesn't have recommendations!" The references were carefully scrutinized. Although the **Duluth News-Tribune** reported in glowing terms

(left) *First Coleraine graduating class, 1908*
(below) *4th of July, Coleraine, 1916*

that *"the bright young men who are in charge of Coleraine are adept at reading character,"* in actuality quite arbitrary decisions were made as to who was desirable.

Because of Greenway's selection process, Coleraine had an ethnic composition different from any other towns on the Mesabi Range. Greenway sought the highest possible percentage of American-born citizens, followed by English, German, Scandinavian, and French, as opposed to southern and eastern European nationalities.

What an early storekeeper referred to as "the most USA town" on the Range could have been considered one of the most un-American towns in the whole country! After all, aristocratic rule, however benevolent, was hardly in keeping with American tradition. Nonetheless, in the Canisteo District there was no overt hostility directed toward Coleraine's hand-picked ethnicity. *"It was a happy, alert, forward-looking pioneer people, bustling with energy."*

Part of the explanation for the acceptance of Greenway's stringent rules may be in the fact that Coleraine was small and located in a remote area, which encouraged a sense of solidarity under leadership. John Greenway himself was rarely equated with company interests and duplicity. His manner was open and frank and few hesitated to approach him with questions and problems.

Today, with the decline of mining activity, Coleraine has become more of a residential community. Bovey, even with a population of five hundred less people than in its heyday, continues to strive to maintain its commercial status and there are several businesses that serve a wide area. A variety of joint undertakings between the two communities, such as a sewer and water project and a police protection agreement, do not erase historical antagonisms. Any discussion of a merger is sure to raise the hackles of the old-timers!

Sandy Ore

Once the steam shovels were in operation in the Canisteo District, the work progressed rapidly. The same methods of open pit mining used elsewhere on the Range were utilized on the Western Mesabi, but for a few years the stripping proceeded on a scale larger than in any other district. Between 1906 and 1908, an incredible 9,126,158 cubic yards of overburden were removed in the Canisteo District at a cost of two and a half million dollars. Members of the Lake Superior Mining Institute were

Henry Dudley, left, Superintendent of the Canisteo Mine. On the right is J. C. Greenway.

touring the Mesabi in 1908; of the Canisteo District, their program noted,

The stripping development here is worthy of especial note, not only for its magnitude, both in extent of area and depth of overburden to be moved, but in the labor-saving methods used in the amount of earth removed month by month.

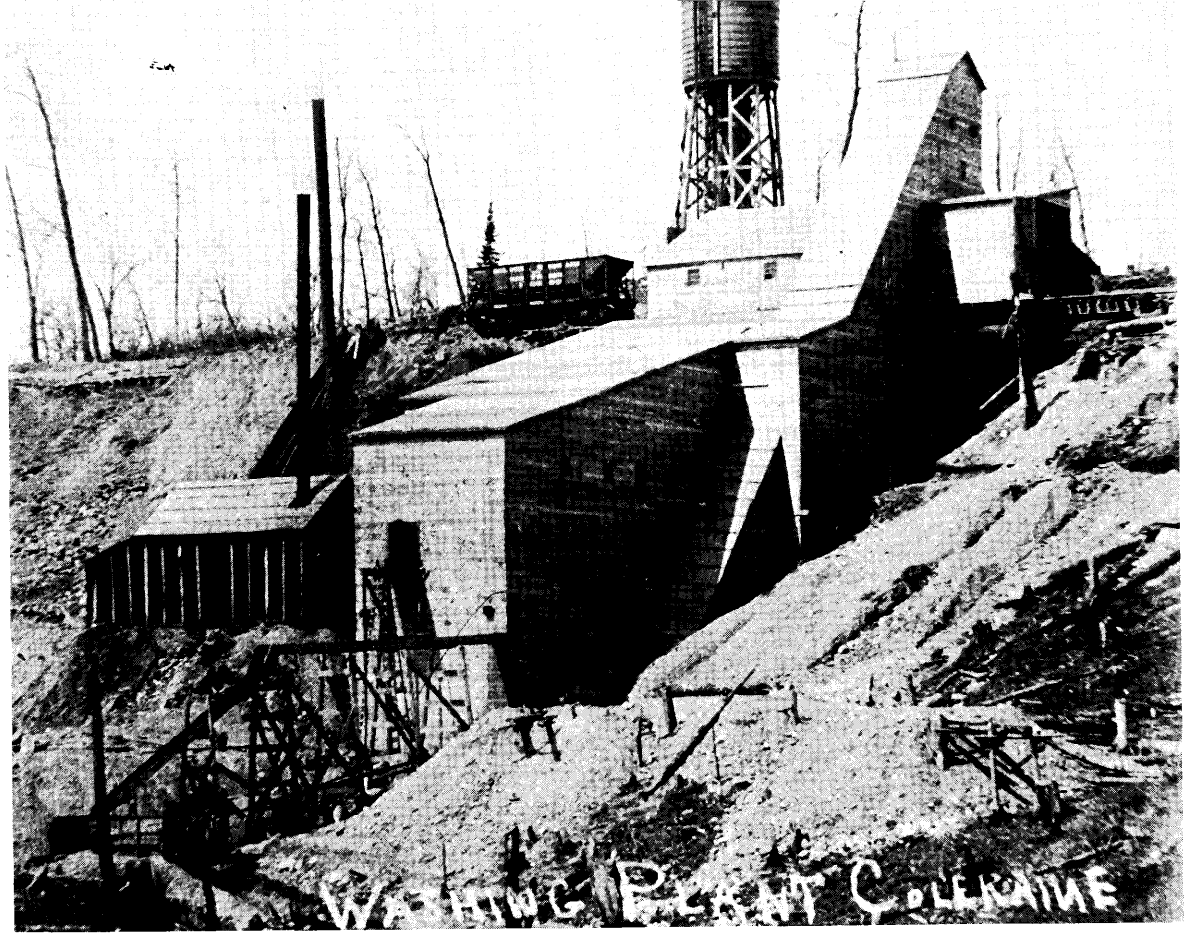
Work proceeded efficiently, and morale remained high. John Greenway was proud of his leadership abilities. His was a familiar figure all through the district; every aspect of the Canisteo project was subject to unannounced inspection at any time. Incongruous though it seems, he directed his efficient, mechanized operation making his rounds on horseback.

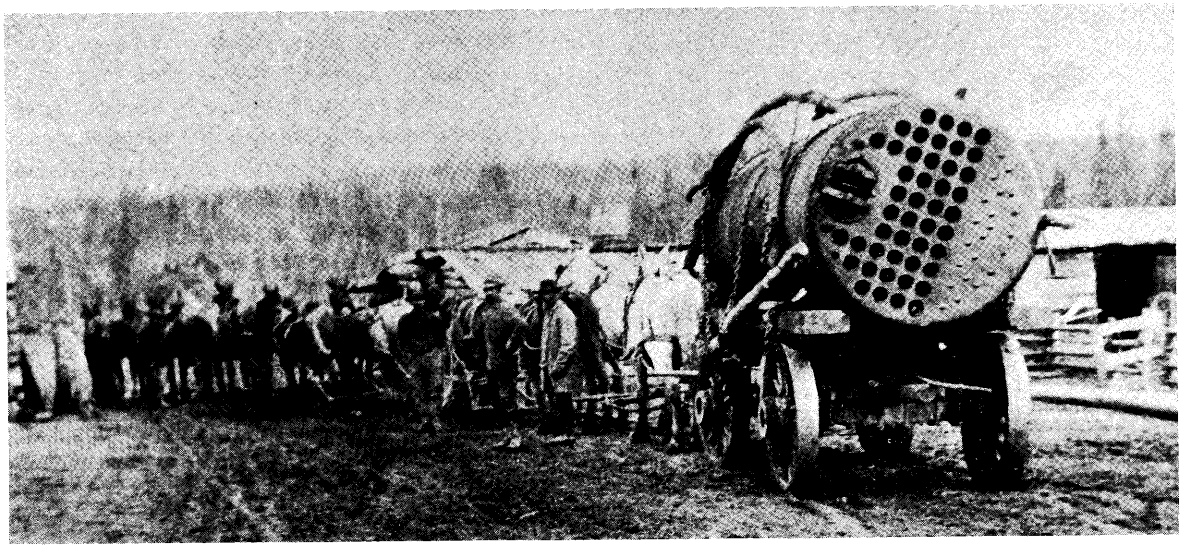
Although Greenway emphasized the bond which existed between himself and the others who were involved in the Canisteo work, he was also careful to maintain his position of authority; one of his men stated that Greenway was *"a good mixer, but he won't merge."* Because of Greenway's successful relationship with labor, the militant Western Federation of Miners' strike which closed most of the mines across the Mesabi in 1907, had practically no impact at all on the Canisteo District.

Still, opening mines and building towns in the Canisteo District was not enough. The poor quality iron ore had to be concentrated to the fifty-seven to sixty per cent iron insisted upon by the operators of the blast furnaces in the East. Greenway's reputation was contingent upon the successful development of a beneficiation process. He had to physically separate the ore from the sand. And as the final product would be low in value, simple machinery with few moving parts, yet capable of handling large quantities, was essential. Particularly impressed with "log washers" in use in Alabama, Greenway was *"more than ever convinced of the practicality of producing a marketable product"* on the Western Mesabi. The report sent to Oliver President Cole recommended the development of an experimental plant based on the log washer concept.

Some modification of design was necessary to treat the sandy ore of the Canisteo District, but the same principles applied. A temporary experimental washing plant was constructed in Coleraine and in the summer and fall of 1907 exhaustive tests were run on the ores.

Feeling that a higher yield of iron ore concentrate could be achieved, Greenway enlisted the help of





(top) *The first experimental washing plant, Coleraine*
(bottom) *Transporting the "Turbo Washer"* (note page 138) *to the washing plant site.*

the proprietors of the hardware store in Coleraine and built a small log washer with a perforated bottom. Below that was placed a chamber into which water under pressure was admitted. The water then entered the log washer through the perforations to further agitate the ore. A large amount of sand was removed, and the iron ore concentrate was richer by several percentage points. Greenway ordered a larger model and added it to the equipment in the washing plant. There it was used to re-treat the tailings from the regular log washer, obtaining further iron ore recovery.

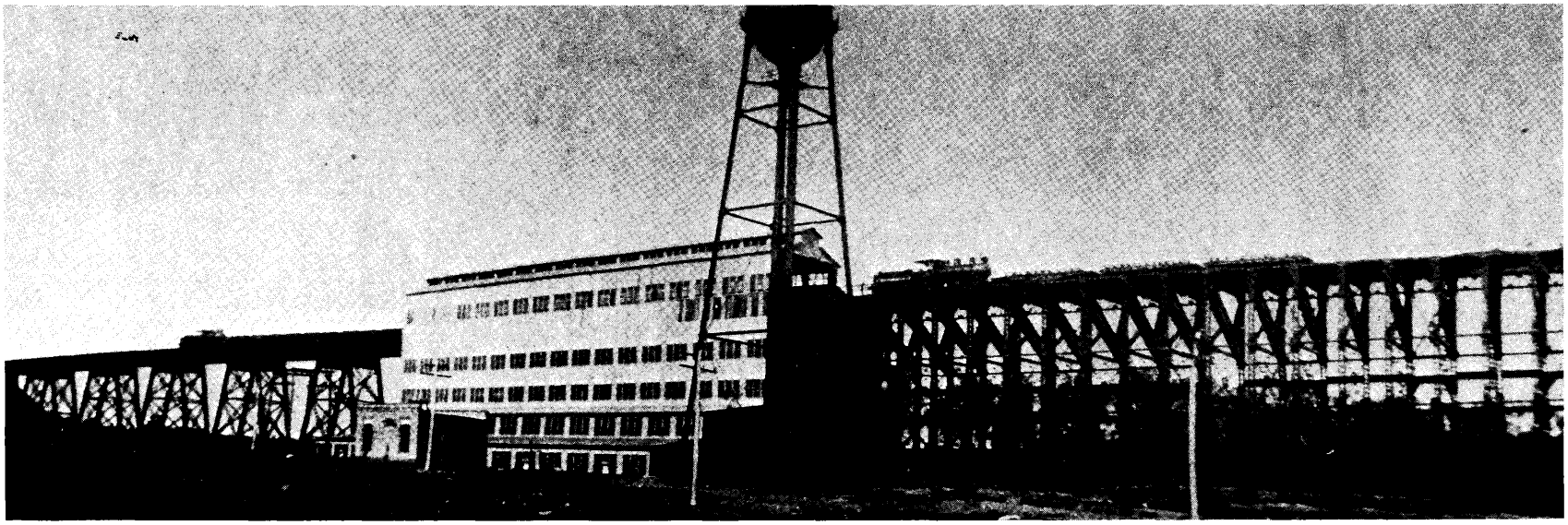
Unfortunately for Greenway, his invention found no support from the officers of the Oliver Iron Mining Company and no funds were allocated for any further testing. Disgusted, Greenway discarded his washer on a scrap heap near the experimental mill. He then recommended to Duluth that outside help be enlisted in an effort to further improve the efficiency of the regular log washers. The Oliver hired Arizona mining engineer Dr. L. D. Ricketts, who noticed Greenway's abandoned washer on the scrap heap, and had it put back into operation. Shortly thereafter, Ricketts informed President Cole that Greenway's improved washer was indeed the answer to the Canisteo District's concentration problem.

The Canisteo Mine, first mine on the Western Mesabi

Ricketts recommended that the "Greenway principle" be given a thorough trial. Furthermore, he thought it should not be used for a secondary treatment of tailings, but rather incorporated directly into the main log washers and used in conjunction with the primary washing of the ore.

Thus, the "Greenway turbo washer," removed from the scrap heap, became the factor that allowed the extra edge needed to profitably mine the low-grade iron ore of the Canisteo District.

In 1909, 18 steam shovels, 38 locomotives and 645 dump cars were in a state of almost perpetual motion as the pace of around-the-clock, around-the-calendar activity was maintained. During the course of the year, the first returns on the steel corporation money were realized as the beds of iron ore were at last exposed. A limited quantity of direct-shipping ore was sent on to the blast furnaces of the East while the leaner, silica laden ore was stockpiled. For John Greenway there was one last major project to be completed before he could consider his assignment to develop the Western Mesabi complete. Everything now depended upon the construction and successful operation of the great Trout Lake concentration mill.



The "Shipyard"

Once the tests conducted in the experimental mill in Coleraine had proved satisfactory, the plans for the permanent mill were made. A location was chosen in a wilderness area about two miles east of Coleraine. The site was near Trout Lake, insuring the enormous quantities of water needed in the beneficiation process. The preliminary work, which included the laying of track from the mines and the building of living facilities for the workers, was underway in the fall of 1908. One of the first tasks was the construction of a giant earthen ramp which was to serve as the approach to the mill. Wide enough to accommodate 4 sets of railroad tracks, it was 4,000 feet long with a maximum height of 125 feet; ultimately over 2,000,000 cubic yards of overburden from the Canisteo Mine were utilized in building the ramp.

The American Bridge Company was contracted to erect the structure, and a crew of 125 welders and steel workers was moved to the site. Eleven thousand cubic yards of cement were poured for the foundation, and then the raising of the huge steel girders began. Massive construction was necessary since the loaded ore trains would discharge their cargo at the top level of the 124 foot high mill. The structure measured 225 by 162 feet and required the use of 6,100 tons of steel. A 650 foot long steel trestle was built to connect the building with the earthen ramp.

The editor of the **Itasca Iron News** hiked out to inspect the progress in the fall of 1909. He reported that the scene reminded him of a shipyard. Struts, braces, and steel beams were piled everywhere with the odd sizes and shapes looking like parts of a giant puzzle that could never be fit together. Work continued all through the winter, and the largest mineral ore beneficiation plant in the world at that time was completed in April of 1910, a full fifteen days ahead of schedule. The first complete run was made in May, and the plant was then in around-the-clock operation.

The Western Mesabi District Today

There are a number of places reflective of the character and history of the Western Mesabi that the visitor may wish to inspect. In Coleraine in the center of town is a white building housing a HARDWARE STORE. The structure was erected as John Greenway's personal stake in his model town, and he maintained ownership of the property for some years after he left Minnesota. Down the street toward

Coleraine, 1978

The "Log Church", on the corner of Cole and Olcott Avenues, Coleraine

the east is the GREENWAY HIGH SCHOOL, a good example of the extravagant use of ore tax money in the small towns on the Mesabi Range. LONGYEAR PARK on the shore of Trout Lake is a pleasant place to relax and to inspect the small monument there commemorating the important beneficiation tests conducted in Greenway's experimental washing plant once located there.

Across the street from the park is an attractive little LOG CHURCH. Built of logs taken from one of the few remaining patches of virgin timber that still stood in the area, it was the first church to be completed in Coleraine. Greenway was a member of its Episcopal congregation and donated the large stained glass window at the rear of the structure as a memorial to his young nephew who had drowned in Louisiana.

To the east of the park just beyond the grade school is the building that served as the HEADQUARTERS for the Oliver Iron Mining Company's Canisteo District; Greenway's suite of offices was located on the first floor. Across the street is the CARNEGIE LIBRARY, always one of Greenway's pet projects.

In the background is TROUT LAKE with its remarkably pristine shoreline. One of Greenway's first actions after he was appointed general superintendent of the Canisteo District was to request steel corporation funds to buy as much of the land around the lake as possible. Most of that shoreline remains in the possession of the United States Steel Corporation to this day, and thus, despite a location within one of the population centers of the Western Mesabi, there are few houses or cottages on the lake and usually not much boat traffic either. Anyone who has the opportunity to explore the lake will find a boat launching ramp in Longyear Park. Down the west shore of the lake find the SECOND LARGE BAY, where an early experiment in the disposal of tailings was conducted. Using water under high pressure, the tailings were "slushed" into the lake, leaving an artificially deep bay with steep sides. Just across the lake on the east side is a large shallow area where the tailings from the Trout Lake Concentrator were once deposited.

The concentrator was demolished for scrap a few years ago, and aside from the EARTHWORKS that once supported the railroad tracks and large piles of tailings, there is not much to see there. The site is about two miles from Coleraine on the left side of County Road Ten.

Farmer's Day

So the oft told local story goes, an elderly immigrant to the Range was in the process of becoming a United States citizen. The judge asked him about our first president and the Declaration of Independence and called for information on voting procedures. All questions were satisfactorily answered. Then the judge asked, *"and what is the most important holiday in the United States?"* The man thought for a moment and then blurted out *"Why Bovey Farmer's Day!"* The judge conferred citizenship on the fellow at once!

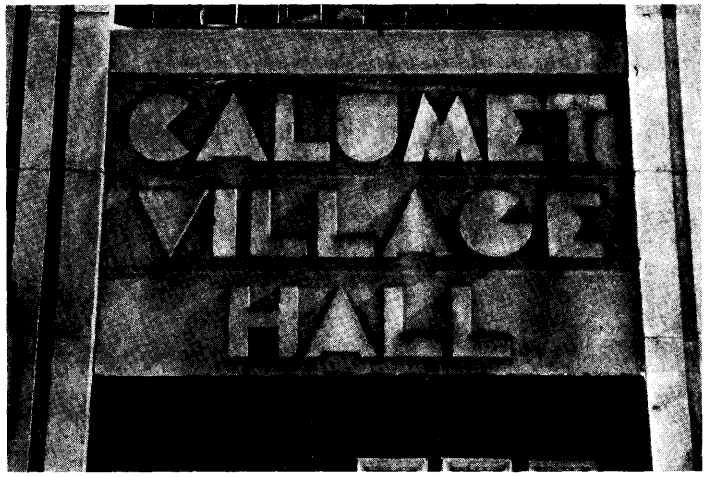
Well, Farmer's Day may have been a bit overrated on that occasion, but it is one of the oldest continuing celebrations in the State of Minnesota and continues to draw large crowds of Rangers each year. The first took place in 1912 on Labor Day and the event has been held in conjunction with that holiday ever since. At first glance a farmer's celebration seems rather odd in an Iron Range community located in Cold country not noted for its food productivity. However, the businessmen of Bovey had to place greater emphasis on developing the town as a merchandising, rather than a mining center, and they began catering to the area's farmers.

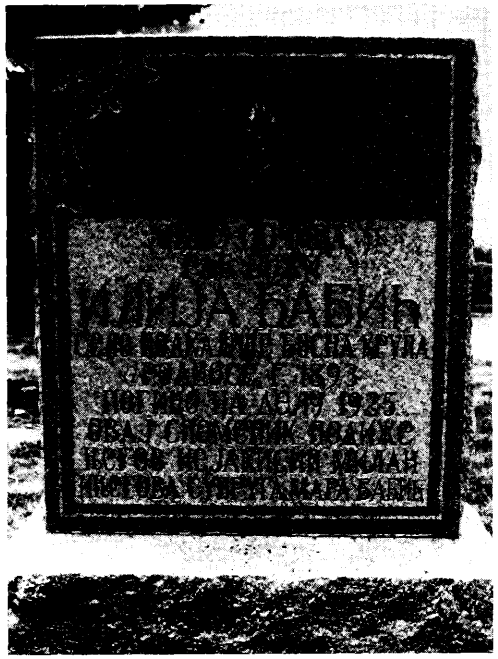
In Bovey on that Labor Day in 1912 there were many activities. A political candidate spoke on one of the area's most popular subjects—the need for better roads; another speaker won scattered applause when he advised all the young farmers present not to marry a girl who couldn't milk a cow! The town was decorated with flags and bunting and the Coleraine band provided entertainment all day long. There was a dance in the afternoon and another in the evening, a tug-of-war for farmers only and a slack wire stunt demonstration. Many prizes were awarded for the best produce displays. The farmer, as the guest of the day, was treated to a free lunch and his *"money was bogus"* for all the admission events.

Today Farmer's Day continues to play a large role in Bovey. The streets and sidewalks are chock-a-block long before noon time at ten-thirty A.M. Many merchants throughout the area offer free pancake breakfasts and other entertainment to visit the town and to eat and drink at the various restaurants and bars. In recent years there have been treasure hunts, ethnic food concessions, beer gardens and the debut performance of Bovey's own new award-winning Seventh Farmers Fife and Drum Corps with authentic Revolutionary War costumes. Among all the remains of the original Farmer's Day are the large display of regional flowers, fruits and vegetables. Although most of the produce is now imported from farms other than farms all over Minnesota, it is still the farmer's first lunch.

If you can't make it to Bovey on Labor Day, you can still enjoy the holiday atmosphere of Farmer's Day.

Bovey, 1978





Headstone in the
Bovey-Coleraine Cemetary

Just outside of Coleraine on the old highway to Grand Rapids, is LAKEVIEW CEMETERY. In the eastern section are many stones dating back to the early years of the district with inscriptions in Cyrillic lettering (seeming quite out of place in northern Minnesota) and sometimes with pictures of the deceased affixed. Just to the west of the center circle of the main cemetery, on the right hand side of the road, is a small marker with the inscription, *"This stone erected in affectionate memory by a comrade."* The monument was placed by John Greenway for one of his numerous Rough Rider employees, this one having had the fatal misfortune of slipping on an icy steam shovel step at Christmastime in 1909.

In Bovey, in contrast to Coleraine, one immediately notices smaller yards and crowded houses. Do not expect, however, to find many remnants of those wild early days, although there is still a choice of drinking establishments. On the town's main street, examine the BANK BUILDING. Part of the outside has been remodeled, but the imposing eaves and most of the original brick work remain. Imagine the impact that large and solid structure made as it rose amidst the small frame buildings of early Bovey. Built as a hotel by the Fitger Brewing Company of Duluth, it had, for a time, the reputation of being one of the best on the Range. On the occasion of the grand opening, the menu included:

Blue Points on the Half Shell
Cream of Celery Soup
Roast Leg of Veal
Fresh Peas
Sliced Tomatoes
Fruit and Cheese

Not bad for a frontier boom town!

Feel free to wander about in Bovey's CITY HALL, also located on the main street. An ambitious mayor in the 1930s worked very hard to secure the building as a WPA project. Much care was lavished on its beautiful interior woodwork and marble trim; also note the copper roof. With a library and various kinds of meeting places, the hall remains the active social center for the town.

Drive north on any of Bovey's streets and you will quickly come to the edge of a MINE PIT. There you can still observe the mining of the low-grade iron ore of the Western Mesabi.

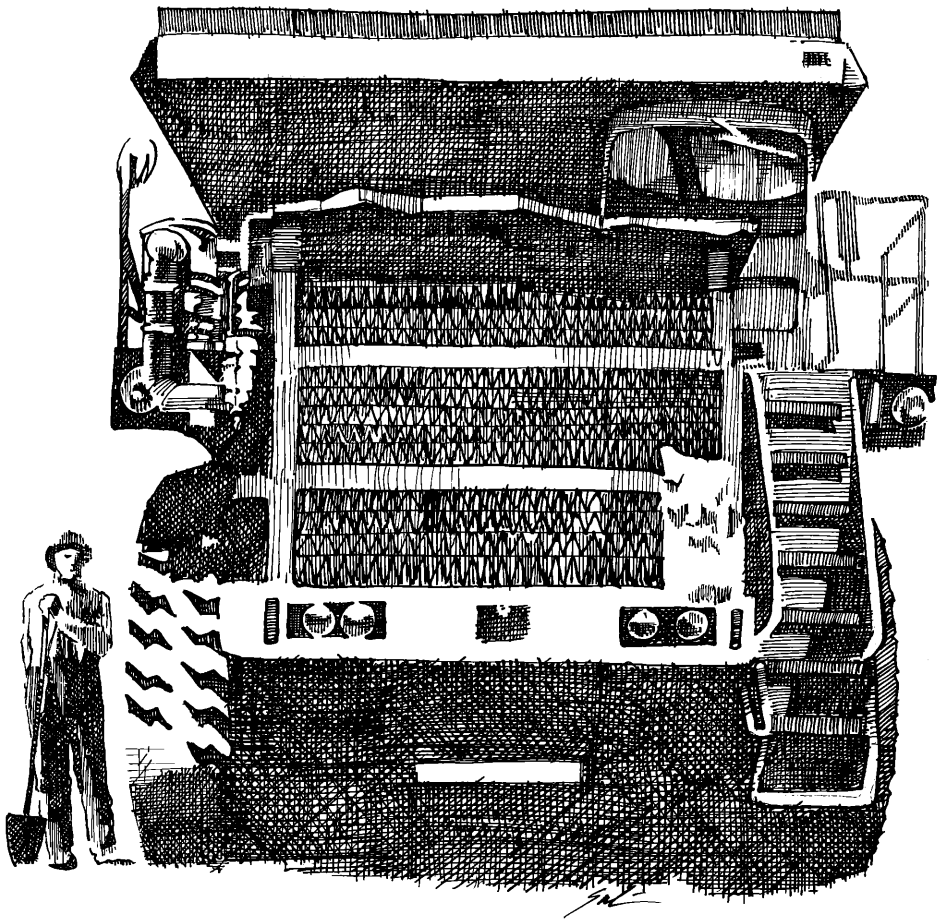
There are three other towns in what was once the Oliver's Canisteo District. MARBLE and TACONITE are two other villages built under the direction of John Greenway. CALUMET was one of the last of the spontaneous Range boom towns; for a time it had a reputation to rival even that of Bovey.

"Grace"

Anyone arriving in Bovey from the east will note the prominently displayed slogan on the water tower proclaiming, "Bovey—Home of the Picture 'Grace.'" This famous photograph, frequently encountered in homes, bakeries, missions, and many other places around the world, was taken in Bovey. Photographer Eric Enstrom was a pioneer in the town, arriving in 1907 and operating his studio until he retired in 1946.

It was in 1918, a year of war shortages in the United States, that Enstrom was casting about for a subject that would place emphasis on what Americans did have, rather than what they were without. By chance, a peddler selling foot-scrapers happened by with his wares and Enstrom was struck by his "kind face," quite lacking in "any harsh lines." Enstrom invited the fellow to pose and seated him at a small table on which he placed his family Bible, a loaf of bread, a knife and a bowl of gruel. The photographer shot his subject from several different angles and in slightly different poses. When developed, most of the prints were interesting, but not particularly special. There was one, however, that seemed to have everything—a certain charm, an aura of humility, and the very essence of the theme of thankfulness that Estrom had sought.

Enstrom was struck by the picture, but at the time he did not even remotely see it as the masterpiece of his career or as a photograph that would bring him fame far beyond the usual lot of a small-town photographer. Indeed, the study received scant attention when Enstrom brought it with him to a photographers' convention that year, and only in the succeeding decade did the picture begin to receive more widespread recognition. Orders for copies began to arrive regularly at Enstrom's studio from far and wide, and his daughter, Rhoda, began doing some hand coloring using oils, making the photograph more popular than ever. (That, plus the fact that "Grace" is commercially available today in color, helps to account for the fact that many who have casually observed the portrait here or there have assumed it to be a painting and are quite astonished to learn that it is a photograph.) Enstrom, having difficulty filling large numbers of orders, sold the rights to his picture to the Augsburg Publishing House in Minneapolis, and the photograph's circulation has steadily increased.



Taconite!

It all began over 1½ billion years ago when a vast, shallow sea covered much of the area of what is now northeastern Minnesota. According to some geologists, the Mesabi Range began in this sea, which contained concentrations of iron and silica. Under certain conditions the iron and silica settled to the sea floor and formed thick layers of iron-bearing sediments. Time passed; the sea disappeared. These iron-bearing sediments, buried under thousands of feet of sand, clay and mud, were subjected to heat and pressure which transformed them into a hard, flinty rock called taconite. Taconite is formed primarily of chert, a form of silica, and magnetite, a black, magnetic iron mineral.

Extending from Babbitt in the east, to Grand Rapids, 110 miles to the southwest, the taconite deposits vary from 1-3 miles in width and up to 500 feet in thickness.

During the long period since its formation, Mesabi taconite has been subjected to a variety of geologic processes which have altered its character. Certain areas of taconite were affected by solutions which dissolved out portions of the silica, converting the black magnetite to red hematite. These areas formed the natural ore mines which played such an important part in Minnesota's history.

Ironically it was this abundance of easy-to-mine natural ore that delayed extensive taconite development until the 1950s.

As early as 1871, Peter Mitchell, a Michigan prospector, opened a test pit in the hard taconite near present-day Babbitt. Experts, however, condemned any efforts to mine the ore and the project was dropped. It wasn't until the early 1900s that further efforts were made to extract iron from the hard, flinty taconite.

An experimental plant was set up in Duluth in 1916 to concentrate iron from the low-grade ore using a technique developed by Dr. E. W. Davis, a young mining engineer with the University of Minnesota. Davis, working with a sample of taconite taken from "Sulphur Siding," a test camp near the old Mitchell diggings, used a magnet to produce a concentrate of 68.00 per cent iron. The Duluth plant, the first in operation, produced 100 tons of iron a day.

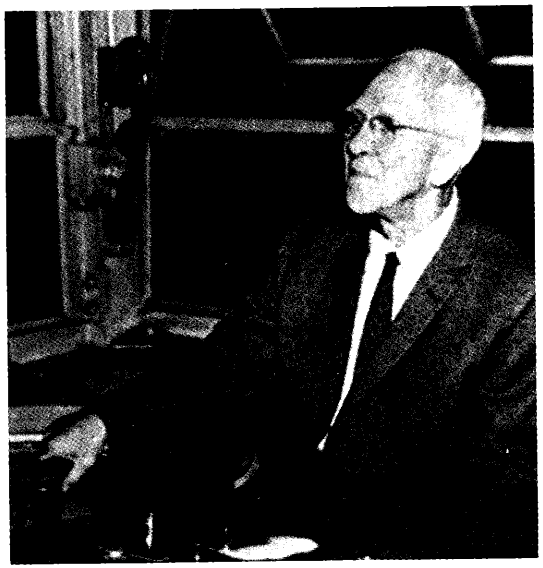
From 1916 to 1918, Sulphur Camp employed 20 men whose only contact with civilization was one telephone wire hung from trees to old Mesaba Station on the Duluth and Iron Range Railroad, and a rutted trail (called the "syndicate trail") to Mesaba. The cost of this three-year taconite experiment was half a million dollars. It was successful enough to lead to the building of a plant near the Sulphur Mine Camp, and old Babbitt was platted.

About 40 buildings were built—homes, company offices, a school and a star-shaped dining hall for hundreds of workers. Within a year, 400 people lived in Babbitt. It was a company town with the Mesabi Iron Company restricting housing, limiting private businesses and strictly enforcing prohibition with its own marshalls.

Mechanical breakdowns at the plant and ore of variable grade led to a decline in demand for the product and the project folded. By the 1930s, old Babbitt was a mining ghost town.

Taconite research was again stimulated in 1941 with the passage of the taconite tax law by the Minnesota Legislature. With this support, plus years of research and testing in small scale pilot plants, large investments in taconite processing were made in the early 1950s by Reserve and Erie Mining Companies.

Growth has not come easily to the taconite industry; capital investments are large, competition keen, and a changing steel industry has brought periods of uncertainty to the iron ore market. The



Dr. E. W. Davis

40 million tons of annual taconite production capacity attained by 1974 cost investors 1.2 billion dollars.

In 1964, Minnesota voters supported a constitutional amendment assuring taconite companies that they would not be singled out for state tax increases.

The pledge of fair tax treatment was very helpful in gaining further taconite investment. New projects that totalled over 400,000,000 dollars were announced following the statewide vote. Within 10 years, taconite plant capacity grew 165 per cent, from 15 million to 40 million tons per year.

A second period of taconite industry growth began in 1974. In that year, construction began on two new plants and three expansions were announced. This has brought the total capacity to about 65 million tons annually, at an additional investment of $900,000,000 dollars.

Much of the natural ore that remains on the Iron Ranges has too little iron in it to permit its use in that form. Experts believe, however, that Minnesota has more than a 100-year supply of taconite.

Copper-Nickel in Iron Range Country

After nearly a century of iron mining, Minnesota's Iron Range Country may see the beginning of a new mining industry for copper and nickel.

Exploration activity for copper-nickel was begun in the area nearly twenty five years ago. Geologic studies began on the ground in late 1951 and this work was followed by airborne geophysical surveys and diamond core drilling. In 1960 work was discontinued because of an adverse land position and the low grade of copper-nickel mineralization when considering the economics of that time.

Interest was renewed in 1965 following an improvement in the price of metals and when it was learned that the State of Minnesota was interested in leasing lands for copper-nickel exploration. A sale of state leases was subsequently held in late 1966.

Geology

The rocks in the area, from the oldest to the youngest are: the Biwabik Iron Formation, the Virginia Formation and the Duluth Complex. These rocks are all of Precambrian age, 1.7 to 1.1 billion years.

Copper-nickel mineralization occurs in the Duluth Complex and is present along portions of its northern and western contact.

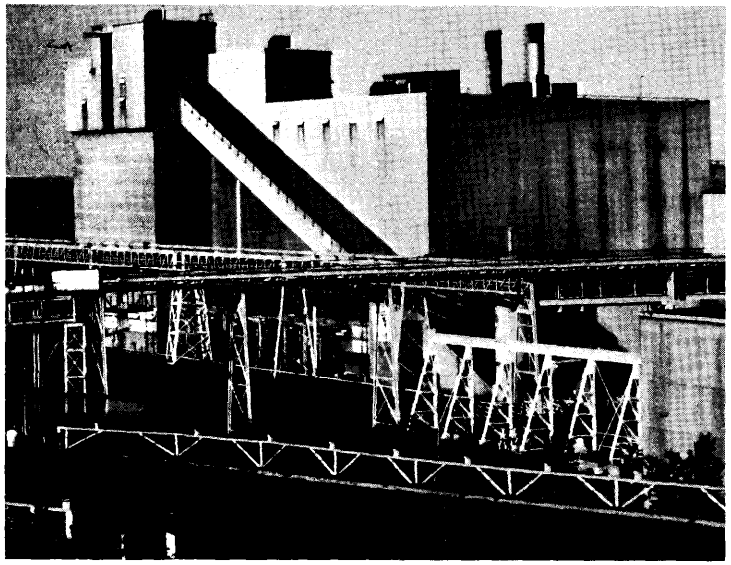
Because extensive glacial cover precludes surface geological studies of the Complex, information concerning the grade and extent of mineralization is interpreted from studying diamond drill cores. It is essential that a better understanding of the geometry and physical characteristics of the mineralization and its relationship with the surrounding environment be learned before the feasibility of mining may be ascertained.

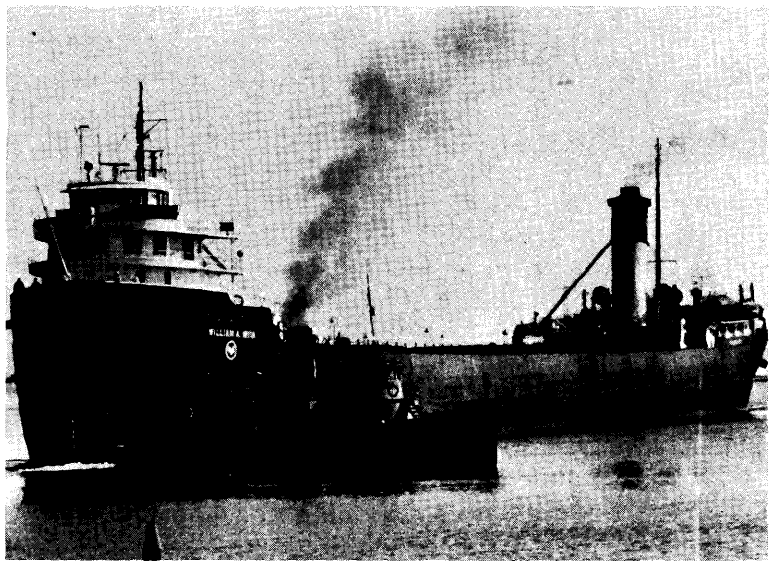
The 1970's and Beyond

Interest in mining the copper-nickel ore body was renewed in 1973. Since then, one company, American Metals Climax (AMAX), working closely with Minnesota state agencies and environmental groups, has sunk a 1700 foot deep exploration shaft to determine the extent of the mineralization in an area north of Babbitt on the Mesabi Range.

In conjunction with mineral studies, extensive testing is being undertaken in order to properly protect the fragile environment of the region if full scale mining occurs in the 1980's.

When all the studies are finished (by 1981 at the earliest) and only after the significant environmental, social and economic questions are answered to the State's and its citizens' satisfaction, Minnesota's Iron Range Country may have a new mining industry which will take it into the 21st century.





Molding the Pellets

Each year, Minnesota mining operations require drilling, blasting and loading many millions of tons of taconite. It is hauled from the mines by diesel-powered trains or by electric trucks of up to 120-ton capacity.

At the plant, the taconite is crushed to driveway gravel size in three stages. Mixed with water which transports it, the crushed material moves through two major grinding operations called rod and ball mills. Because it is magnetic, the ground taconite can be run through a series of separators containing magnets which pick up the iron particles but reject the waste (about two-thirds), principally silica or sand. What remains is taconite concentrate, a powder-fine, jet black iron ore material containing about sixty-five per cent iron.

To facilitate its handling and use, the taconite concentrate is rolled into marble-sized pellets.

The pellets are baked hard in a 2400-degree heat to withstand shipment to the steel mills, and to function properly in the blast furnaces.

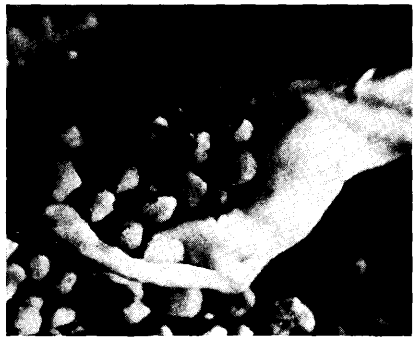
Transportation is the final link in iron ore production and an important factor in making it competitive.

Moving the Ore

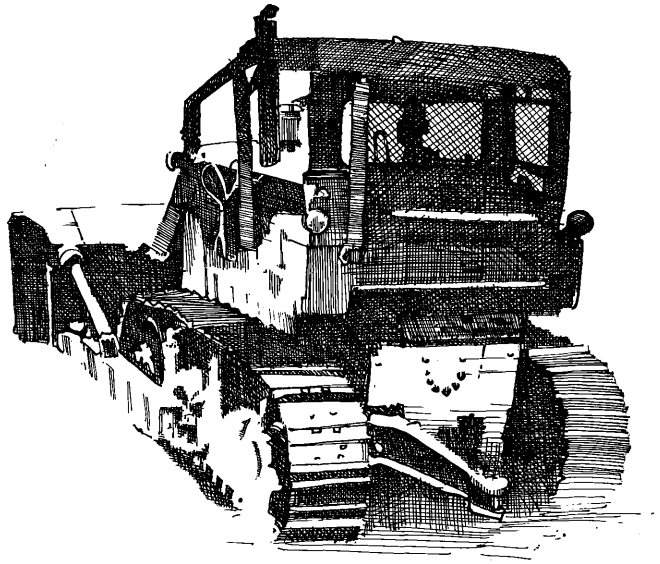
Moving ore from the mine or taconite processing plant to the blast furnace is an important phase of the iron production system. Transportation of iron ore from mine to blast furnace may account for 50 percent of the delivered value of the ore. Traditionally, Minnesota's mines rail haul (via the Duluth Missabe and Iron Range Railroad and Northern Pacific Railroad) to loading docks at Silver Bay, Two Harbors, Taconite Harbor, and Duluth-Superior. Ore boats then haul the cargo to blast furnaces at the lake ports of Toledo, Cleveland, Detroit, Chicago and Buffalo or transfer ore by rail for inland blast furnaces at Gary, Indiana; Granite City, Illinois; Pittsburg, or other industrial centers.

Iron ore is the only metal in the country that moves great distances before it is smelted and refined. Several factors are involved:

1. Coke, limestone, and ore must be brought together to produce pig iron and steel. Coke is expensive to transport and cannot be economically moved very far from the coal sources.
2. The pellets and natural ores contain a high metal content; the shipper is not paying to transport a large amount of waste material.
3. Iron and steel are bulky products that sustain higher transportation costs than either coke or iron ore. Therefore, the blast furnaces and steel makers prefer to locate close to their markets rather than to their raw materials.
4. The traditional heavy industrial centers (major markets for iron and steel) originally located near an energy source—the coal fields of Pennsylvania, W. Virginia, Illinois, Ohio and Indiana.



Taconite pellets



Iron Mining — Taconite and other tour opportunities

Minnesota Ore Operations (Minntac) U.S. Steel Corporation, Mt. Iron, MN.

This is a comprehensive 1½-hour mine and plant tour available from mid-June through August. The bus leaves Mountain Iron recreational building on Second Avenue off Highway #169 in Mt. Iron, every hour on the half-hour, 9:30 A.M. - 4:30 P.M. daily, including weekends.

Erie Mining Company, Hoyt Lakes:

Taconite mining and processing. June through August, the two-hour tour departs promptly at 12:30 P.M. Monday through Friday. This is a comprehensive bus tour of all phases of the taconite operation, open to all, nine years of age or older. Women are requested to wear slacks and low-heeled shoes. The tour starts at the Erie Mining Company administration building. Follow Highway 110 to Hoyt Lakes and turn left at sign to Erie Mining Company.

Parking is provided. Groups are limited so advance registration is required. Call Erie Office of Public Relations at (218) 225-7373 between 7:00 A.M. - 3:30 P.M. weekdays or write:

Tours
Erie Mining Company
P.O. Box 847
Hoyt Lakes, MN 55750

Eveleth Taconite Company, Eveleth, MN

This is a guided tour of the Thunderbird Mine, available from June 20th through September 2nd. (No tour on July 4th.) Visitors will see drilling rigs, trucks and other heavy equipment mining taconite. You may board a bus at the Eveleth Taconite Plant parking area north of Eveleth at 10:00 A.M. and 1:00 P.M. Monday through Friday. Watch for the yellow and black signs on Highway #53. Families and small groups require no reservations. For larger groups or advance information write:

Mine Tours
Eveleth Taconite Company
P.O. Box 180
Eveleth, MN 55734

Mine Viewpoints

1. **Erie Mining Company: open-pit mining**
   From Aurora, turn north onto 3rd Street North and follow signs to the viewpoint.
2. **Viewpoint in the Sky:**
   South of Virginia on Highway #53. View Rouchleau Mine and Mesabi Range from atop a man-made hill.
3. **Twin City Mine: open-pit mining**
   One mile east of Chisholm on Highway #169. Excellent view of open-pit mining.
4. **Glen Mine: Inactive**
   On the observation deck of the Iron Range Interpretative Center, which is built on the edge of the once busy but now closed mine, there is an excellent exhibit of the geology of the Mesabi Range.
5. **Pillsbury-Glen Mine Complex:**
   Two miles west of Chisholm on Highway #169, there is a state wayside with explanatory signs describing this once active group of mines. An impressive sight, this is a man-made canyon extending as far as the eye can see. No admission charge.
6. **Hull-Rust Viewpoint:** Hibbing
   This is a "must see" on any visitor's list of Iron Range sights. Now inactive, the Hull-Rust is the world's largest open-pit iron mine.
7. **Hawkins Mine Viewpoint:**
   Located at the end of Main Street in Nashwauk, this viewpoint affords the visitor an excellent example of an inactive Mesabi Range open-pit mine, steep sided and water-filled.
8. Hill Annex Mine: Calumet
   (note page 105) This steep sided mine offers the visitor one of the best examples of natural ore mining on the Mesabi Range.

Mesabi Range towns and cities at a glance

Aurora

Aurora, organized in 1898, was originally established at a site one mile north of its present location at a rich iron ore strike called the Meadow Mine. The townsite was originally called "Norlander" after a Duluth and Iron Range Railroad official in the hopes that a spur would be built to the mine. The spur was not built; Norlander was dropped in favor of Aurora when incorporation papers were drawn up in 1903. Local legend explains that a spectacular display of northern lights inspired the name Aurora.

When the railroad spur was later built, it bypassed the original townsite by one mile and so a new town was platted next to the tracks in 1905. Then Aurora, like many other Range towns, was moved.

By 1920, Aurora's population had swelled to 3,000. However, by the mid-20s, mines began to close, population declined. With the advent of taconite mining Aurora has grown again to become an important trade and recreational town.

Aurora at a glance

For general information
City Hall, 55705, 218/229-2614

Emergency services
Hospital — White Community Hospital, 229-2211
Clinic — East Range Clinic, 229-3311
Ambulance — 229-2211
Police — 229-2244
Fire — 229-2255

Senior citizens drop in center:
Main Street next to the GTC Auto Parts store

Sports facilities open to the public:
Pine Grove Park — baseball, bocceball, picnicing, ice skating
Swimming — Aurora-Hoyt Lakes High School
Tennis — Aurora-Hoyt Lakes High School & on Main Street between railroad tracks

Visitor attractions:
Erie Mining Company observation stand

Babbitt

In the summer of 1916, young electrical engineer Dr. E. W. Davis and a crew of mining and metallurgical engineers were experimenting with processing taconite; their campsite and the subsequent early plant and cluster of homes for employee families was named Argo. This was later changed to Sulphur Siding and then to Babbitt.

But various technical difficulties, as well as the keen competition of rich ore, made the beneficiation process unfeasible, and by the fall of 1924, Babbitt was a ghost town. *(see page 145.)*

In March of 1939, however, Reserve Mining Company was organized. The name "Reserve" was chosen because the company organizers felt that taconite was a resource of the future that might not be needed for twenty years, but would be there waiting when the time came. A site for the new town of Babbitt was selected, with eighty new homes programmed for occupancy in 1952. Everything was professionally designed and planned, making Babbitt a truly unique town.

Reserve Mining Company acquired leases and in 1942 the experimental work began again, with Reserve's personnel collaborating with Dr. Davis. Iron pellets were developed from the taconite, and by 1955, construction of taconite processing facilities at Babbitt and Silver Bay, costing $100 million, were virtually completed. A huge expansion program was later finished, and now, mining at the rate of 27 million tons of taconite rock each year makes Babbitt the world's largest iron mining operation.

And on the hill overlooking modern Babbitt lie the remains of the pioneering E. W. Davis 'Argo' experimental plant.

Babbitt at a glance

For general information:
City Hall, 55706, 218/827-3464

Emergency services:
Hospital — Ely-Bloomenson, 1—365-3271

Clinic — Babbitt Medical Clinic, 827-2184
Ambulance — 827-3473
Police — 827-2441
Fire — 827-3473

Sports facilities open to the public:
* 9 Hole Golf Course on Cty. Rd. 70 west of Babbitt
* Tennis courts at Kennedy High School
* Bocceball courts at the Babbitt City Park

Visitor attractions:
* Peter Mitchell Monument in front of Babbitt shopping center.

Biwabik

The name "Biwabik" in Ojibwa means "valuable." The main sources of livelihood for its residents are the mines and taconite plants, businesses, the schools and city. Biwabik was the first of the now existing Mesabi Range towns to be incorporated as a village.

Biwabik also has several other "firsts." It was the first Mesabi Range town to be served by two railroads; it had the first large mine on the Mesabi; and its mine was the first to use a steam shovel.

Located in the valley of the Embarrass River, travelled by Indians and fur traders, the site was an Indian camping ground. Prospectors visited the location during the 1865-1866 Lake Vermilion "gold rush" because the Vermilion Trail passed through.

In 1891, one of the Merritt parties discovered a high-grade ore at what later became the Biwabik Mine. A townsite was platted overlooking Embarrass Lake and named Merritt for the pioneering family. Biwabik was platted a mile west of Merritt, north of the Biwabik Mine. When, in 1893, the railroad ran its line to Biwabik, and Merritt was almost destroyed by fire, Merritt's inhabitants moved to Biwabik. A story is told that Biwabik's first beer was floated down the Embarrass River on a raft from Tower.

When the Biwabik Mine began operating in 1893, John T. Jones of the Biwabik Ore Company conceived the idea of using the steam shovel to strip the overburden from the ore. Although many experienced mining men laughed at this proposal, a steam shovel was hauled overland by horses through the forest from Mesaba Station.

After a short time this method proved itself and other Mesabi mines began using steam shovels. The era of open-pit mining had begun.

When the Biwabik Mine ceased operations in 1956, it had shipped over 25 million tons of iron ore.

Biwabik's residents and visitors can fish, swim and waterski within a mile of their community at Merritt Lake.

Thousands of people flock to the city to celebrate the Fourth of July Parade.

Biwabik at a glance

For general information:
City Hall, 55708, 218/865-6404

Emergency services:
Hospital — White Community Hospital, 229-2211
Ambulance — 865-6240
Police — 865-6240
Fire — 865-6240

Senior citizens drop in center:
On 3rd Avenue across from City Hall

Sports facilities open to the public:
* Biwabik (Heritage Trails) Beach — swimming, picnicing, fishing, boat access
* Tennis — between Horace Mann School and Brey Elementary
* Skating/Hockey rink — corner of 5th Ave. & 3rd St. No.

Visitor attractions:
* Biwabik (Heritage Trails) Beach

Bovey

Bovey at a glance

For general information:
City Hall, 55709, 218/245-1633 or Librarian 245-3691

For recreation and schedule information:
245-3203

Emergency services:
Hospital — Itasca Memorial, 326-3401
Ambulance — 326-3401 or 326-3477
Police — 245-2490
Fire — 245-2152

Senior citizens drop in center:
At City Hall between 4th and 5th Avenues

Sports facilities open to the public:
* Tennis — 3 courts on South 4th Avenue
* Skating/Hockey — 1 outdoor rink at 2nd Ave. N.
* Softball Field at North 7th Avenue

Special events:
* Labor Day — Farmer's Day

Buhl

Buhl is another Mesabi Range town that had its beginnings when lumber interests moved into the area in 1898 and established a camp. By 1900, lumber companies employing thousands of men, had cut over seven million feet of lumber here.

Simultaneously, mining companies were exploring, and in 1900, the Sharon Ore Company, while preparing for mining, platted a forty acre townsite and named it Buhl, for Frank H. Buhl, then president of the ore company. The town occupied a six block area that is Buhl's shopping district today.

Mining forged ahead as the chief industry. Men from many countries came to work in the eight open pit mines that eventually surrounded the town.

In 1900 there was no hotel or restaurant. Meals were served at a logging camp in a tent with "walls" of brush and trees. The train depot was a boxcar.

Yet the population boomed. From lumberjacks and explorers in 1900, the town grew to a population of 800 in 1903 (with only 50 women).

Buhl's largest mine, the Wabigon, held the record for low cost operation. In just three seasons, from 1920-1923, it was stripped of overburden and 500,000 tons of ore by electric drag lines, with an average daily crew of five men, each handling approximately 250 tons of ore per day. This was the first open pit on the Mesabi to be electrified, and its shovel, with a dipper capacity of fourteen tons, was the largest ever used to that date in an open pit.

Buhl's population reached its peak in 1920 with 2,007 people. Since that year, until recently, its population has declined with the decrease in local mining activity. Its future is directly connected, like that of many other communities on the ranges, to taconite production.

Buhl at a glance

For general information:
City Hall, 55713, 218/258-3226

Emergency services:
Hospital — Virginia Municipal, 1—741-3340
Hibbing General, 263-7591
Chisholm Memorial, 254-3367
Ambulance — 258-3422
Police — 258-3353
Fire — 258-3422

Senior citizens drop in center:
Fire Hall (Intersection of Forest St. & Jones Ave.)

Sports facilities open to the public:
Burton Memorial Park — playground

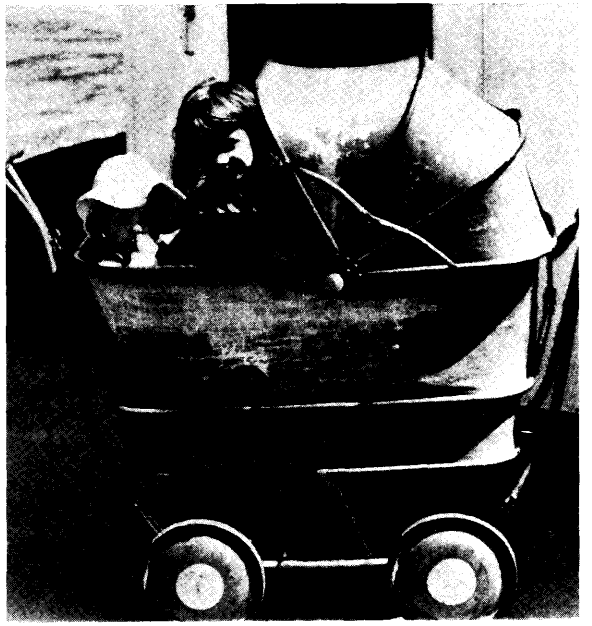
Burton Memorial Park — playground/picnicing/ bocceball

Calumet

In 1880 several logging companies were operating near the future site of the village of Calumet. The logging companies, sometimes employing as many as 100 men, brought the first settlers to the Calumet area.

Named after the Indian peace pipes, Calumet became a permanent community when the Hill Mine was put into operation.

In 1909 the Virginia Enterprise wrote, *"Calumet is one of the latest towns to spring into existence on the Mesabi Range. The site of 480 acres is admirably selected upon a slight eminence above little Panacea Lake, which lies within the village limits and provides an excellent source of water and ice."*



Towns and cities continued

Businesses of all kinds came to Calumet. By 1909 a general store, hardware store, a women's clothing store, blacksmith shop, cigar factory, ice house, livery barn, butcher shop, public sauna and fourteen saloons had opened.

Mining has been Calumet's principal economic base since the community was formed. The most important of the Calumet mines was the Hill-Annex Mine, one of the largest state-owned mines in Minnesota. Since the closing of the mine, the state has erected interpretive facilities overlooking the mine for visitor use. *(note page 105)*

Today Calumet still retains much of the flavor of an early mining community and warrants a turn off Highway 169 for a brief step into the history of Minnesota's iron ranges.

Chisholm

Chisholm, on the shores of Longyear Lake, claims to be the geographical center of the Minnesota Arrowhead, the Continental Divide being one mile north.

Frank Hibbing, while prospecting on the Mesabi Range, came upon a lumber camp here in 1891. With the discovery of rich iron ore deposits in 1892, the site took on dramatic significance. It changed almost overnight into an unorganized mining community and remained such for nearly a decade, during which neighboring sections were bought by explorers and businessmen. Among these was A.M. Chisholm for whom the town is named.

In 1901, this group organized the Chisholm Improvement Company, platted the town site and had it incorporated as a village.

In six years the population had grown to almost 6,000, and the town had an imposing city hall, four blocks of business houses, two banks, sewers and two weekly newspapers.

On September 5, 1908, a brush fire swept down upon the village. In what seemed like moments, Chisholm was destroyed. No lives were lost and residents began rebuilding the town almost immediately. Within nine months, 70 fireproof buildings had been constructed. Within a year the town was again flourishing.

Chisholm became a city in 1934.

Forty five mines have shipped ore from the Chisholm district, although there is now just the Sherman Group of mines producing ore.

Chisholm has survived the ups and downs of a mining economy to become the robust community it is today. It has several unique sites of visitor interest; it is home to the Minnesota Museum of Mining *(note page 104)* and the Iron Range Interpretative Center *(note page 96)*.

Chisholm at a glance

For general information:
Chamber of Commerce, Iron Man Motel, Chisholm, 55709, 218/254-3600
For recreational facilities and schedule information:
254-2635
Emergency Services:
Hospital — Chisholm Memorial, 254-3367
Clinic — Adama Clinic, 400 N.W. 1st, 254-3391
Ambulance — 254-3321/254-3314
Police — 254-3314
Senior citizens drop in center:
On Lake Street between 1st and Central
Sports facilities open to the public
* Tennis courts adjacent to the Arena
* Ball fields — 2 softball/1 hardball
* Ice Skating/Hockey Arena open on a schedule

Visitor attractions:
* Minnesota Museum of Mining
* Iron Range Interpretative Center
* Bridge of Peace Causeway across Longyear Lake
* St. Vasilife of Ostrog, Serbian Orthodox Church (543 8th Street S.W.)

Special events:
* Pergol Slow Pitch Statewide Tournament — early July
* Serbian Days — Mid July
* Minnesota Ethnic Days — Mid August
* Annual Balkan Fair — 2nd Sunday/September

Coleraine

Coleraine at a glance

For general Information:
City Hall, 55722, 218/245-2112
For recreation and schedule information:
245-9994
Emergency services:
Hospital — Itasca Memorial, 326-3401
Ambulance — 326-3477
Police — 245-1056

Fire — 245-1200

Senior citizens drop in center:
In the basement of the City Hall

Sports facilities open to the public:
* Tennis — 2 courts on Powell Avenue, 2nd Addition
* Ice Skating/Hockey — 2 outdoor/1 indoor rink
* Arena — West Range Arena at Curley and Mitchell St.
* Softball Field — Longyear Park
* Baseball Field — off McKlean Ave.

Visitor attractions:
* Longyear Park
* Log Church — corner of Cole and Olcott
* Coleraine and Bovey Cemetery

Special events:
* August — Fisherama
* NOTE — The Coleraine Library maintains an occasion calendar for all organizations in the town.

Embarrass

Embarrass is a small farming community eleven miles west of Babbitt, in the valley of the Embarrass River (so named by French fur traders because of the obstructions it presented to canoeists.)

Among those who migrated to the mining regions for work were many Finns. Some did not like mining, and others were eager to farm; so attracted by the similarity between the valley and their homeland, a group left the mining communities and settled along the Embarrass River. Here they homesteaded, cutting the pine forests, and draining the cedar swamps. Embarrass township was organized in 1905.

The chief industries were farming and logging. Certified seed potatoes raised here were among the best in the region.

Today Embarrass is still primarily a farming community, although farming does not play the role it once did. Many residents now commute to the taconite plants and mines of the Mesabi Range.

Eveleth

The "Hill Top City" was named for Erwin Eveleth, a lumberman here from Michigan who had been sent to purchase pine lands in the region.

In 1892, with the discovery of iron ore in the region, a town site was platted and incorporated about a mile southwest of the present location, on land now included in the Adams-Spruce Mine (Douglas Avenue - between Jones and Monroe Streets). Unfortunately, the financial panic of 1893 almost coincided with the founding, and the tiny settlement was hardpressed to survive. No new buildings were added to the four or five that formed the nucleus, and at times food was so scarce that residents were reported to have existed solely on moose meat. Mail at this time came by way of Virginia on a dog sled.

The first council meeting was held in the back room of a store in 1894. The village hall, built a year later, was a two story frame structure that cost $660.00.

In 1895 ore was discovered beneath the town site, and five years later the village was moved to its present location.

The community was incorporated as a city in 1902. It is a city of the fourth class operating under a home rule charter.

Mining has been Eveleth's chief industry. In the past, the mining has been for high grade natural ores. Today that has changed to the mining of low grade taconite.

Eveleth is known as the "Hockey Capital of the Nation" and has produced such hockey greats as Frank Brimsek, Sam LoPresti, John Mariucci, and Mike Karakas. Since 1921, Eveleth's high school team has won five state hockey championships. Also, in 1956, Eveleth players, joining with an Eveleth coach, brought home a silver medal from the 1956 Olympic Games.

This great hockey background has resulted in this city being selected as the site of the United States Hockey Hall of Fame, a facility honoring both amateur and professional players and administrators of the sport, with emphasis on the American-born.

Towns and cities continued

Eveleth is also known as the "Friendliest City on the Iron Range" and "never allows a stranger to remain one for long."

United States Hockey Hall of Fame

Minnesota's Iron Country is proud of its teams' finesse at hockey, and 60 miles northwest of Duluth on Highway 53 at the entrance to Eveleth is a monument to that pride—the United States Hockey Hall of Fame.

The one million dollar Hall of Fame was designed to create a dynamic mood that captures the action and excitement of hockey.

On the first floor is the Great Hall, where the more than 45 enshrinees are located. Each of these enshrinees has a "pylon" which contains his biography and photograph. The concept of pylons is unique to halls of fame which normally use busts or paintings.

Also located on the main floor is the theater which shows 30 minute hockey movies four times daily.

The "Evolution of Hockey" Time Tunnel first meets the eye on the top level. Through the use of sight and sound, this unique exhibit takes you back to the early days of the game and slowly brings you forward to the hockey we know today.

It is generally agreed that the first games of hockey in the United States were played in Baltimore, Minneapolis and Concord (New Hampshire), in 1895. From these first games in three widely scattered areas of the country, has grown the hockey now played at the high school level in 17 states and at the college level in 20 states.

Such areas as Eveleth, Boston, Upper Michigan, Minneapolis-St. Paul and New York City, which have made significant contributions to hockey, are featured. Additional displays show the international side of hockey; top hockey nations are Canada, Czechoslovakia, Finland, Sweden, the United States and Russia.

This is a highly recommended site and visitors are urged to allow at least two hours to fully appreciate the exhibits and movies.

There is a nominal admission charge and the hours are:

Summer:
June 15 - Labor Day
Monday - Saturday: 9:00 A.M. to 8:00 P.M.
Sunday: 10:00 A.M. to 8:00 P.M.

Winter:
Monday - Saturday: 9:00 A.M. to 5:00 P.M.
Sunday: Noon to 5:00 P.M.

Eveleth at a glance

For general information:
Eveleth Civic Association, Eveleth, 55734
218/741-9583
For recreational facilities and schedule information:
741-8835
Emergency services:
Hospital — Eveleth-Fitzgerald Community Hospital
749-1950
Clinic — Eveleth Clinic, 741-6553
Ambulance — 741-5770
Police — 741-7145
Fire — 741-5770
Senior citizens drop in center:
414 Pierce Street, Eveleth
City Hall — 741-2501
Sports facilities open to the public:

* 9 hole Golf Course — on shores of St. Mary's Lake, 3 miles So. of Eveleth on Hwy. 53
* Eveleth Lake Veteran's Park — 3 miles So. of Eveleth on Cty. Rd. 132 — swimming, picnicing
* Tennis — directly behind Eveleth Senior High School
* Ice Skating/Hockey — outdoor rinks at Northside Park, Lincoln School, Ballpark and on Monroe Street.
* Indoor Arena — Hippodrome

Visitor attractions:

* U.S. Hockey Hall of Fame — N.E. of city on Hwy. 53
* Eveleth Area Museum — 215 Grant Ave.
* U.S.D.A., Eveleth Tree Nursery — 4 miles So. of Eveleth at Junction of Hwy. 53 and 37
* Fairlane Taconite Plant and mine tours — 8 miles So. of Eveleth off Hwy. 7

Gilbert

Gilbert was hailed at birth as the prospective "principal city of the Range."

Ore in the Gilbert district was discovered as early as 1891 at the McKinley Mine but none was shipped until 1896 when the Genoa Mine was opened. Development was slow because of the hard taconite formation, quicksand, and a large amount of water beneath the deposits.

Gilbert was incorporated as a village in 1908 despite a protest filed by the Pitt Iron Company insisting that part of the area was mining land not "conditioned . . . to be subjected to village government." The State Supreme Court upheld the company and the newly elected officials were ousted. During this period, Gilbert's population was increased by the residents from the townsite of Sparta, one-half mile south; Sparta had been purchased by the Oliver Mining Company when high-grade iron ore was found beneath it. The village of Sparta, organized in 1897, was dissolved in 1911.

Gilbert, finally incorporated in 1909, was built substantially. The road that became Broadway was hewn from the stand of pine that covered the townsite; at one time, this road was part of a twenty-eight-mile boardwalk connecting the eastern Mesabi Range towns.

Gilbert was also the eastern terminus of the Mesabi Electric Railway, an interurban streetcar line which ran from Gilbert to Hibbing. *(See page 119)*

Gilbert at a glance

For general information:
City Hall, 55741 - 218/741-9443
For recreation and schedule information:
749-3837
Emergency services:
Hospital — Virginia Municipal, 741-3340
Ambulance — 741-7907
Police — 741-7907
Fire — 741-7200
Senior citizens drop in center:
On Broadway in old City Hall building
Sports facilities open to the public:

* Tennis — Upper Wisconsin Avenue
* Swimming — Gilbert-Sparta Beach on Ely Lake
* Bocceball — Hopkins Park

Visitor attractions:

* Business office of the Iron Range Historical Society

Towns and cities continued

Grand Rapids

Grand Rapids thrived with the logging and mining industries of the region.

The heavy stands of Norway and white pine proved too great a temptation, and, between 1870 and 1890, logs on their way to sawmills farther south choked the Mississippi and its tributaries. Shortly after 1870, Warren Potter built a log store building at the spot, thus founding the permanent settlement.

In 1890, the Duluth and Winnipeg Railroad reached Grand Rapids, and so many settlers came in its wake that the village was incorporated in 1891. With the discovery of iron ore on the western Mesabi Range, prospectors hastened to the region, and mining joined lumbering as a leading industry.

Today, Grand Rapids is a town of 7,500 and the county seat of Itasca County. It is situated on the Mississippi River and has four lakes within its village limits. The name Grand Rapids comes from a succession of cataracts 3½ miles long which marked the practical head of navigation on the upper Mississippi River when the steamboats were the only dependable feeder of supplies to the lumber camps of northern Minnesota.

Grand Rapids' economy is based on paper making, iron mining, agriculture, tourism and small industry. The Blandin Paper Company, employing more than 1,200 people, is one of the most modern paper mills in the country and furnishes coated paper for many of the leading national magazines.

Grand Rapids is located on the western end of the Mesabi Range and there are mines to the east and north of the community. Faced with depletion of its high grade iron ore reserves, Itasca County's iron ore industry is pioneering the development of plants to process low grade taconite and semi-taconite. The first facility in the county is Hanna's Butler Taconite Plant near Nashwauk.

Recreational facilities are nearly unlimited in Itasca County. It has a reputation for good fishing, clear water lakes, one of the best deer hunting areas in the state, good duck and other small game hunting, camping, picnicing, and in the winter, ice fishing, two large downhill ski areas and many snowmobile and cross country ski trails.

Grand Rapids has two parks, a municipal swimming beach, tennis courts, an 18 hole golf course, active saddle clubs and square dance clubs. The Grand Rapids Showboat, with performances held in July and August each summer, is gaining state and national prominence for its excellence of presentation. This old time variety musical is presented by a large cast of performers who arrive and depart at the Showboat site of their performance on a beautiful old stern wheel showboat.

The Grand Rapids Performing Arts Council, in conjunction with the University of Minnesota, holds its Summer Arts Festival and Workshop at Quadna Mountain Lodge in Hill City. Incorporated in the program are early music, drama, drawing and painting, contemporary art aesthetics, choral music and dance.

Grand Rapids is one of the finest communities in Minnesota's Iron Range Country offering exceptional facilities and recreational opportunities to its visitors.

Grand Rapids at a glance

For general information:
Chamber of Commerce - Welcome House, 401 Pokegama Ave. N., Grand Rapids, 55744
218/326-6619
City Hall — 326-3246

For sports facilities and schedule information:
326-9211

Emergency services:
Hospital — Itasca Memorial, 326-3401
Clinic — Grand Rapids Clinic, 326-9482
Itasca Clinic, 326-6613
North Star Clinic, 326-3441
Ambulance — 326-3477 or 326-3401
Police — 326-3464
Fire — 326-3461

Senior citizens drop in center:
SUMMER ONLY — Kozy Rest on main floor of Central School

Sports facilities open to the public:
* Tennis — 10 courts
* Ice Skating/Hockey — 7 outdoor/1 indoor rink
* Softball/football/baseball fields
* Legion Park Complex — cross-country skiing
* Riverside Park — (10 Ave. W. and 5th St. W.) picnicing, hiking, childrens' playground
* 18 hole Pokegama Golf Course
* Public access to Mississippi River at 1st St. S.W. in Sylvan Addition.

Visitor attractions:
* Minnesota Forest History Center — open May-October 31
* Mississippi Melodie Showboat Landing
* Blandin Paper Company Tours — Monday/Wednesday/Friday from 10 A.M. - 4 P.M. on the hour
* Central School (directly behind Welcome House)
* Itasca Community College on Hwy. 169

Special events:
* January — Men's Invitational Curling Bonspiel
* February — Ladies' Invitational Curling Bonspiel AAUW Childrens' Theater
* May — Forest History Center opens
* July — Mississippi Melodie Showboat North Star Stampede, Effie
* August — Itasca County Fair
* September — Timber Producers Logging and Sawmill Equipment Festival

GRAND RAPIDS

Towns and cities continued

Hibbing

Hibbing, the "iron ore capital of the world," is the Mesabi Range's largest city.

Timber cruisers were the first white men known to have visited the Hibbing region, and they brought back reports of ore outcroppings.

After the Vermilion Range had demonstrated its wealth, the search for iron ore spread westward. Frank Hibbing entered the region, and in 1892, men in his employ discovered valuable deposits. The following year he platted a town site that was incorporated as a village on August 15th. At first the streets were practically impassable because of large pine stumps and mud, and the hauling of food supplies and equipment needed by mining, logging, and rail operations was impeded. Drinking water was another problem, the nearest being three miles away, at Carson Lake.

During this period, all eyes were turned on Virginia, and few purchasers could be found for the Hibbing property. During the panic of 1893, the village seemed doomed. Work of any kind was scarce; even the monthly wages of lumberjacks ($6-12) were paid in "due bills" not collectible until the following January.

By the end of 1894, signs of increasing activity were evident. Frank Hibbing advanced $3,000 for a railroad to run from town to the Mahoning pit, and in 1895 several mines were opened. Miners and lumberjacks swarmed in from eastern states and European countries. Soon saloons outnumbered stores, streets were dangerous places for the unwary.

In the busy period between 1898 and 1900, the Swan River Lumber Company, whose large camp with 1,500 men was located one mile east of town, built a permanent sawmill. Logs were transported to Hibbing, and the lumber was shipped by rail to Swan River for the first lap of the journey down the Mississippi.

By the turn of the century, Hibbing had a population of more than 2,000, with a constantly shifting army of transients. The city, however, soon found itself in a dilemma. When platted, a site thought to be south of the ore deposits had been selected, but now, beneath its very streets, valuable ore was found. The Oliver Iron Mining Company, a subsidiary of United States Steel Corporation, already in control of the mineral rights, decided the town must be moved.

NOTE: For more on moving Hibbing and other range communities, please refer to page 115

The shifting of the village necessitated a means of

transportation between the old and the new towns, and a motor bus service was started, which was to become the nucleus of the nationwide Greyhound Bus System *(see page 121)*

More than 73 mines have shipped ore from the district. The Hull-Rust-Mahoning, the largest open pit iron mine in the world, lies almost wholly within the village limits.
NOTE: For more information on the Hull-Rust Mine refer to page 104

The Hibbing High School is nationally famous. The most expensive of its kind when it was built in 1923, it is an E-shaped structure with a 596 foot frontage. The main section contains classrooms, laboratories and offices, libraries, two gymnasiums, an indoor track, swimming pools and a study hall. Its auditorium, which seats 1,805 people, has a modern pipe organ and a 40 x 60 foot professional stage. The school is decorated with murals. One by David Workman, in the library, depicts various phases of the mining industry; six panels by David Ericson, to the left and right of the main entrance, illustrate the history of the region.

The City Hall is modeled after historic Faneuil Hall in Boston. Four murals in the hall illustrate The Hibbing Old Settlers and Historical Society's Museum is located in the basement of the City Hall. A model of Old Hibbing is located on the fourth floor.

Recreational facilities are excellent in Hibbing. The city maintains six parks, of which Bennett, 35 acres

HIBBING
Chamber of Commerce
Hull-Rust-Mahoning Mine Observation Point
Hibbing Visitors Center
Hibbing City Ballard Old Settlers Museum
Hibbing Taconite Processing Facility
Hibbing High School
Public Buildings and Recreational Facilities
Police Department
General Hospital
Post Office
Public Library
Hibbing Community College
Bowling Alley
Golf Course
Parks and Open Space
Hibbing Municipal Airport
Bennett Park
Roosevelt Community Center
Recreation Area

Towns and cities continued

(Park Street between 1st and 7th Avenues) is the most developed.

Presently the iron mining industry of Minnesota is investing hundreds of millions of dollars in new and expanded taconite facilities within a twenty mile radius of Hibbing.

Many of the industries in and around Hibbing exist solely to serve the mining investment. Other industries are entering the market, however, adding to an increasingly diversified industrial base.

Hibbing personifies small town America, whose people put strong emphasis on quality of education, quality of work and quality of family life.

The Paulucci Planetarium:
Hibbing, Minnesota

The most northern, large scale, solar-heated facility in the country, the planetarium will stress energy conservation and environmental awareness. Located in Hibbing, Minnesota, on Highway 169, solar collectors facing the south will convey energy to a 225,000 gallon water storage reservoir underneath the planetarium.

Massive earth berms (elevated dirt walls surrounding the structure), extra insulation, heat loss resistant entrances and windowless construction will make the planetarium an energy model for future generations.

The emphasis of its programs will be on showing how we fit into our environment. Besides environmental lectures, visitors will be able to walk on the bottom of the sea, float in space, burrow into the depths of the earth or experience the trauma of a thunderstorm.

Upon entering the planetarium, visitors will find a solar telescope which tracks and observes the sun. Displays of the sun in white light, hydrogen-alpha and its spectrum, along with astronomy and solar technology exhibits will be featured.

Enclosed deeper in the planetarium is an ecosphere chamber under a 40-foot dome with seating for 100 people. Numerous environmental science programs can be viewed with an all-sky movie projector. Stellar phenomena accompanied by sound effects through a 360-degree stereophonic system will add to the presentation.

This is a highly recommended site and visitors should allow at least two hours to explore the facility.

Hibbing at a glance

For general information:
Hibbing Chamber of Commerce, Great Northern Square, 303 E. 19th Street, Hibbing, 55746
218/263-7611
For recreational and schedule information:
263-8851
City Hall — E. 21st St. and 4th Avenue, 262-3486
Emergency services:
Hospital — Hibbing General (Central Mesabi Medical Center) 263-7591
Clinic — Adams Clinic, 262-3425
Mesaba Clinic, 262-3441
Northland Orthopedics, 262-4549
Ambulance — 263-8808
Police — 263-3601
Fire — 263-3691
Senior citizens drop in center:
Memorial Bldg. (E. 5th Ave., & 23rd St.) 263-5770
Sports facilities open to the public:
* Golf Course at Bennett Park
* Tennis courts at Lincoln Jr. High School (E. 11th Ave. & 23rd.) and at Hibbing Community College (1515 E. 25th)
* Carey Lake Recreation Area — 5 miles E. of city, fishing, picnicing, hiking, cross country skiing, boat access.

Visitor attractions:
* Chamber of Commerce All-City Bus Tours: Monday - Friday at 1:00 P.M., nominal charge. Tours leave from the Chamber offices at E. 19th St. Recommended

All of the following are included in the All-City Bus Tours, and can also be visited separately.
* Hull-Rust-Mahoning Mine observation stand
* Hibbing Taconite processing plant
* Bocceball Courts
* Old Brooklyn mining location townsite
* Paulucci Planetarium
* Hibbing High School
* Hibbing City Hall
* Hibbing Historical Society Museum (in basement of Hibbing City Hall
* Old Hibbing model on fourth floor of City Hall
* North St. Louis County Fairgrounds

Special events:
* Mid-April — Last Chance Curling Bonspiel
  North St. Louis County Fair

Hoyt Lakes

Old Mesaba, located within the village limits of Hoyt Lakes, was incorporated in 1891; today it is a ghost town. When Mesabi Range iron ore was discovered in 1890, Mesaba Station was established to become the main outfitting point in the area, soon boasting over three hundred buildings. By the late 1890s, however, the town declined, as rail lines were extended to the richer ore deposits on the western and central Range. In 1947, an election held in Mesaba Station saw three votes cast, all to dissolve the village.

But the area was not to be left abandoned, for in May of 1954 construction of the Erie Mining Company taconite plant was begun at Hoyt Lakes. The village of Hoyt Lakes, originally called Partridge Lakes Development, was to provide homes for the taconite employees. By the end of 1954, over one hundred homes were occupied in a carefully planned community of curving streets.

Growing with the increase of taconite mining on the Mesabi Range, Hoyt Lakes offers shopping and recreational opportunities to visitors.

Hoyt Lakes at a glance

For general information:
City Hall, 55750 — 218/225-2344
Emergency services:
Hospital — White Community, 229-2211
Ambulance — 225-2800
Police — 225-2000
Fire — 225-2800
Senior citizens drop in center:
Senior citizens' building directly behind City Hall

Sport facilities open to the public:
* 9 Hole Golf Course
* Indoor hockey/Ice skating Arena
* Fisherman's Point Campground — fishing, camping, picnicing, boat access, bike trail
* Tennis courts — Kensington Drive

Visitor attractions:
* Erie Mining Company taconite plant tours
* E. J. Longyear Drill Site (reconstructed)

Keewatin

Iron ore explorations had been carried on extensively throughout the western Mesabi Range by 1904, when large deposits were found at the site of present Keewatin. A settlement grew there and took its name from the Ojibwa **Giwedin,** meaning "north" or "north wind".

Keewatin grew slowly in its first years. In 1905 the St. Paul Mine started operations, followed three years later by the Bray Mine. Development increased when the Great Northern Railroad reached the community in 1909. Two more mines, the Mississippi and the Bennett, opened in 1910 and 1912. The Mesabi Chief Mine went into operation in 1927 and became Keewatin's largest mine. By 1940, the Mesabi Chief had shipped over six million five hundred thousand tons of iron ore.

In 1974, a group of companies jointly invested in the construction of the National Steel Pellet Taconite processing facility, visible north of town from Highway 169. Presently processing tons of taconite annually, the plant has given Keewatin a new lease on life.

Keewatin at a glance

For general information:
City Hall, 55753 - 218/778-6544
Emergency services:
Hospital — Hibbing General, 263-7591
Ambulance — 885-2307
Police — 778-6300
Fire — 778-6565
Senior citizens drop in center:
300 North 1st. (corner of 1st and 3rd)
Sports facilities open to the public:
* Tennis — 2 courts at 3rd and old Hwy. 169
* Ice Skating/Hockey — 1 outdoor rink

Visitor attractions:
* National Steel Pellet Plant Tours — 778-6521

Kinney

As mines opened, small "locations" grew up rapidly near the mine shafts and open pits. Most have disappeared; a few survived. Several locations existed near Buhl, such as Kinney, incorporated in 1909.

Kinney reached its peak population in 1900 and boasted five grocery stores, a bank, a livery stable, two hardware stores, two barber shops, a candy store and a school. The Mesabi Electric Railway, which connected the range towns from Gilbert to Hibbing, was a mile south of Kinney.

The population of the Kinney area reached 3,000 when the many small locations near it were counted: Wade Location, Yates Location, Wanless Location, Coates Location, Whiteside Location, Woodbridge Location, Grant, Franz, Luchnow and Spina.

Spina, within shouting distance of Kinney's main

Towns and cities continued

street, consisted of a few stores, a bakery, a movie theater and a few houses. Mine stripping crept toward it, and one mine dump slide in 1916 destroyed several homes. The threat of more slides caused most of the residents to move and Spina has become just another memory in Mesabi Range history.

Kinney still stands, and has recently declared itself to be an independent republic. According to the town's mayor, frustration over federal bureaucracy mandated secession from the United States!

Marble

Marble is one of the mining villages in the Canisteo District of the western Mesabi Range. At one time it was rated the second richest village in the world with an original valuation of 5½ million dollars.

The town site was 80 acres in size when the Oliver Iron Mining Company, in 1908, began constructing the village following the completion of Coleraine. The first buildings of the village were log cabins and it wasn't until 1909 that more imposing structures were built. One of the finest of the early buildings was a brick hotel which was later destroyed by fire. One early resident remembers the circumstances:

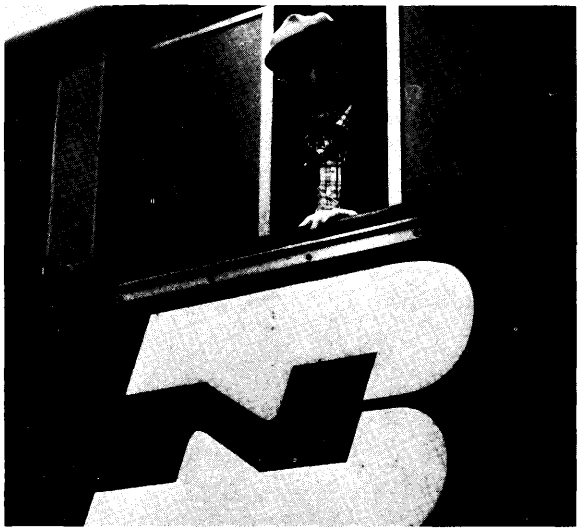
"A hotel fire during February, 1919 almost meant death for a Marble woman. Not knowing that a kerosene tank was already full, some men added more to it. All this spilled over onto the floor. When a lady worker went down to fix the fire, she thought the liquid was water and lit a match. A spark made an explosion and soon everything was burning. The lady ran into a coal bin, slammed the door and then escaped through a coal shute!"

Marble today, although originally a "location" town built by the mining company, still survives with neat homes and a busy main street.

Marble at a glance

For general information:
City Hall, 55764 - 218/247-7147
Emergency services:
Hospital — Itasca Memorial, 326-3401
Ambulance — 326-3401 or 326-3477
Police — 247-7282
Fire — 247-7104
Senior citizens drop in center:
Corner of ALice and Sadir Street (10 A.M. - 3 P.M.)
Sports facilities open to the public:

* Tennis — 2 courts on South Avenue
* Softball field at west end of town
* Ice Skating/Hockey rink south of Alice Avenue



McKinley

In 1891, the townsite of McKinley was a small sawmill operated by the Mesaba Lumber Company. John McKinley leased much of the land in the area around the sawmill and in December of 1891, he and his brother discovered iron in what was to become the McKinley Mine.

Many miners came into the area and in 1892 the townsite of McKinley was platted.

At one time McKinley had a population of 700 people. Many of the area's miners and lumberjacks came to the village to spend their money. It was also the business district for many of the nearby "location" towns and had eleven saloons and a few houses of ill repute. There was also a hotel, three stores, a butcher shop, clothing store and a barbershop.

Today McKinley, located just north of Highway 135 on County Road 20 between Gilbert and Biwabik, is only a shadow of its former status. Its residents know that the local mining company will probably start mining within the townsite someday, but this has not prevented them from working for local improvements and increased awareness of their community's existence.

Mountain Iron

The village of Mountain Iron is known as the "Birthplace of the Mesabi." It currently has a population of 2,000 and is the home of U.S. Steel's MINNTAC, the largest taconite processing facility in the world.

The Mountain Iron Mine shipped the first Mesabi

ore in 1892, but the Merritt family of Duluth *(note page 98)* had been exploring in the area as early as 1889. A townsite was platted in 1892 and called "Grant." When the petition for incorporation was filed, however, the name Mountain Iron was given, commemorating the huge mountain of iron ore nearby.

From 1889 to 1892 Mountain Iron was an exploration camp "beyond the fringes of civilization." Wilbur Merritt, a teenager, had charge of the camp store, and in 1891, when the Merritts were exploring at Biwabik, he had charge of the company office. All the supplies arrived from Tower or via Mesaba Station — a week's trip via Indian trail.

The Merritt family formed the Mt. Iron Company and developed the Mt. Iron Mine. Ore was shipped over the sixty newly constructed miles of the Duluth, Missabe and Northern Railroad tracks, another Merritt venture. The ore was removed by underground methods in the early years; later open pit techniques were used. The Mt. Iron Mine was a major ore producer in the 1890's, idle between 1908 and 1943 and heavily mined from 1943 to 1956.

During the fiftieth anniversary of the discovery of iron ore on the Mesabi Range, a ten and one half foot granite and cement statue of Leonidas Merritt, leader of the Merritt family, was unveiled. That statue stands today on the grounds of Mountain Iron's public library.

At Sutich Park (at the western end of the town) is the parking lot and jump-off point for tours of MINNTAC. Tours start every hour on the half hour from June through September. There is no admission charge.

With the tremendous increase in taconite mining and processing, Mountain Iron's future seems assured for years to come.

Mountain Iron at a glance

For general information:
City Offices - 735-8267
For recreational facilities and schedule information:
735-8890
Emergency services:
Hospital — Virginia Municipal, 1—741-3340
Ambulance — 1—741-1488
Police — 735-8780
Fire — 735-8842
Senior citizens drop in center:
Main floor, City Hall
Sports facilities open to the public:
* Tennis — 4 courts
* Ice Skating/Hockey — 5 outdoor/1 indoor rink
* Bocce ball courts

Visitor attractions:
* MINNTAC Taconite Plant and Mine Tours
* Leonidas Merritt Memorial
* MINNTAC mine viewpoint and observation stand

Towns and cities continued

Nashwauk

Nashwauk was the first mining town in Itasca County. In 1902, the Mississippi Land Company deeded forty acres, the present site of the original plat of Nashwauk, to the Nashwauk Realty Company. In 1903 the existence of Nashwauk became legal.

The incorporation of the village set off a building boom. Board sidewalks appeared, and tents that had been used for temporary dwelling were vacated as miner's houses were completed. Families continued to arrive; no other town on the iron ranges grew as Nashwauk did. Its population swelled from 220 in 1902 to 2,080 in 1920.

In 1908-09 the Great Northern Railroad was extended from Nashwauk to connect with Grand Rapids. In 1901 stripping had begun on an extensive scale at the Hawkins Mine, the village's chief source of income until its closing in 1962.

The Hawkins open pit can be viewed from an observation stand located at the western end of Nashwauk's main street.

Nashwauk is located in the heart of excellent fishing country, with numerous lakes surrounding the village for swimming and boating.

The community's future, like that of its neighbor, Keewatin, has brightened considerably with the construction of taconite mining and processing facilities within ten to fifteen miles of the village.

Nashwauk at a glance

For general information:
City Hall, 55769 - 218/885-1210
For recreation and schedule information:
778-6283
Emergency services:
Hospital — Hibbing General, 263-7591
Clinic — Itasca Clinic, 885-1449
Ambulance — 885-2307
Police — 885-1000
Fire — 885-2460
Senior citizens drop in center:
Across from City Hall in Memorial Building
Sports facilities open to the public:

* Tennis courts, Softball field, at the Nashwauk Athletic Field next to and below Hwy. 169 bridge
* Bocceball — 2 courts directly behind 1st National Bank building
* Ice Skating/Hockey — located on 4th St., 2 blocks south of Central Avenue

Visitor attractions:

* Hawkins Mine (inactive) Observation Stand — located at the west end of Central Avenue

Taconite

Surveyed in 1903, while still Indian territory, Taconite was named for the low-grade ore on which it was built. Located north of Highway 169 between Marble and Bovey, the town was originally an "Oliver" town, owned by Oliver Mining Company, with Oliver police, Oliver-owned homes and an Oliver-controlled labor market: the mines.

From 1928 until the closing of the high school, Taconite's hockey teams were held in high esteem across the state. According to one newspaper account:

"Youngsters barely old enough to stand on skates are instilled with the spirit, and old timers who now sit on the sidelines constantly relive the great games of the past."

Taconite at a glance

For general information:
City Hall, 55786
Emergency services:
Hospital — Itaska Memorial, 326-3401
Police — 326-3477
Senior citizens drop in center:
Located in brick building on Main Street opposite Legion Hall
Sports facilities open to the public:

* Tennis — 2 courts
* Baseball/softball field
* Ice skating/hockey — 1 outdoor rink

Virginia

In the beginning, Virginia was a drill camp operated by several men, each of whom located ore bodies that were developed as mines. According to local legend, Virginia was named by E. E. Humphries, who came from West Virginia and wanted to remember his home state. By 1892, the Virginia Improvement Company had platted a town site that was immediately incorporated as a village.

Virginia, like Biwabik, developed rapidly as both mining and lumbering boomed. When the Merritt's railroad reached Mt. Iron, people traveled that far and then walked over to Virginia. Thousands of workers, mostly European immigrants, flooded the area to work in the new mines. By 1900, most of the laborers were Finns and Scandinavians. After 1900, southern Europeans arrived in large numbers and by 1910, there were residents from at least thirty-five nations.

In 1893, Virginia was a bustling, though raw and brawling, frontier mining town. The main street was sticky red mud "paved with logs," with wooden sidewalks built three feet above street level, and buildings lining the sidewalk.

Then on June 18th, a brush fire from the southwest roared through town, and in forty minutes, while the population of 5,000 watched helplessly, the town was consumed.

The town was immediately rebuilt and in 1895, its most prominent newspaper, the Virginia Daily Enterprise, proclaimed that *"Virginia is now the only city on the range."*

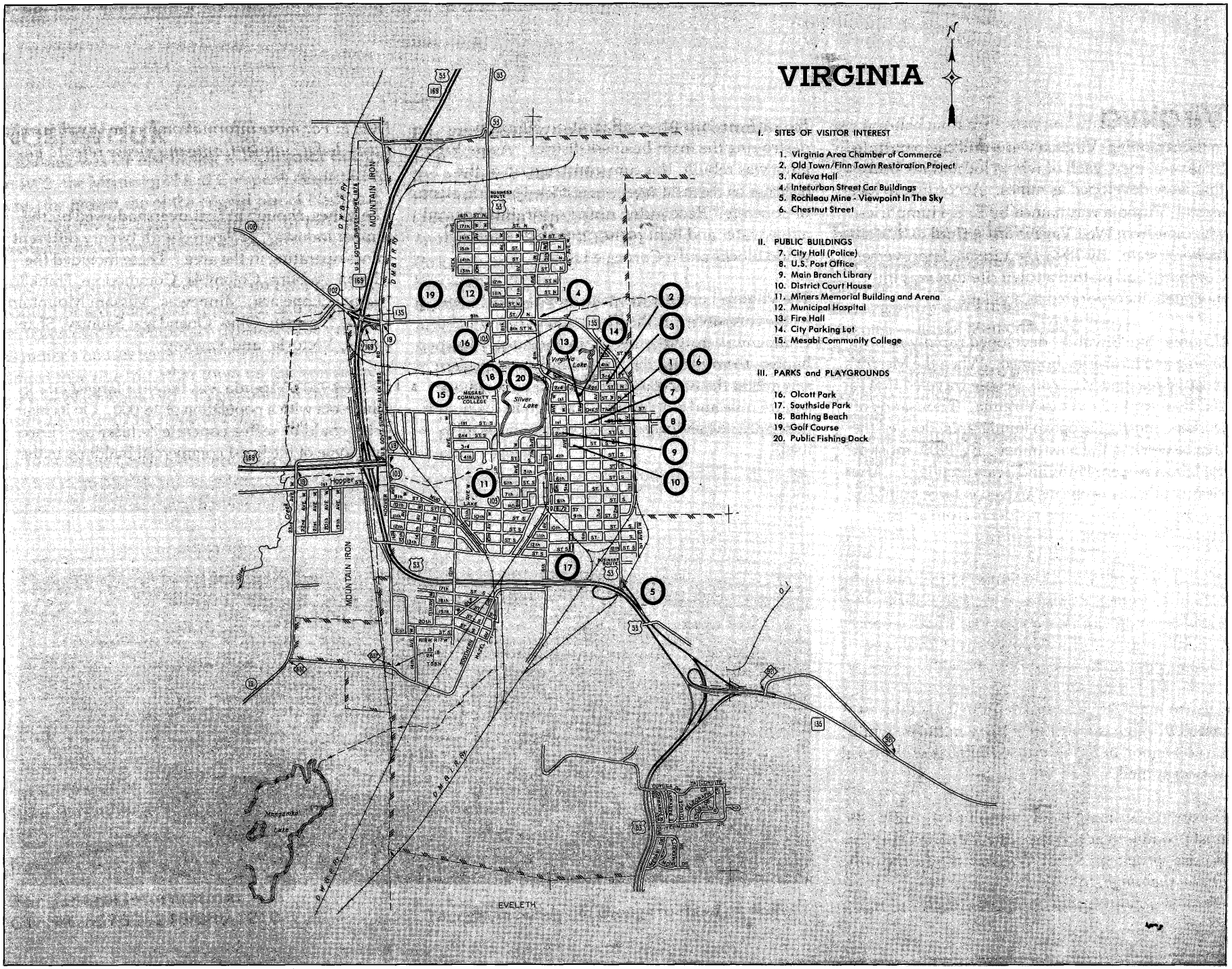
But on June 7, 1900, conflagration hit again — destroying the main business district. Again Virginia was rebuilt, this time construction of the buildings on the main street was restricted to brick, stone or concrete. Recovering rapidly, Virginia boasted a fine water and light plant, "cobbled" streets of wood blocks and a Carnegie Library.

The Virginia Lumber Company moved into the area — the forerunner of the Virginia and Rainy Lake Company — in 1908. Owned by Frederick Weyerhauser, the mill was the largest and most modern sawmill in the world at that time. It covered one square mile and employed 3,000 men in the woods to supply it with logs, and 1,800 men in the mill itself.

NOTE: For more information on the Virginia and Rainy Lake Lumber Company please refer to page 87

The mines, though at first overshadowed by the lumber industry, prospered with twenty different mines operating in the area. These included the Alpena, Auburn, Columbia, Commodore, Franklin, Higgins, Lonejack, Minnewas, Missabi Mountain, Moose, Norman, Ohio, Onandaga, Sauntry, Shaw, Union, Victoria, and Yawkey.

By the 1920's Virginia was the fifth largest city in Minnesota with a population of 16,000. On its main street could be seen a concrete "whiteway," lined with some of the finest commercial buildings in the


VIRGINIA
N
I. SITES OF VISITOR INTEREST
1. Virginia Area Chamber of Commerce
2. Old Town/Finn Town Restoration Project
3. Kaleva Hall
4. Interurban Street Car Buildings
5. Rochleau Mine - Viewpoint In The Sky
6. Chestnut Street
II. PUBLIC BUILDINGS
7. City Hall (Police)
8. U.S. Post Office
9. Main Branch Library
10. District Court House
11. Miners Memorial Building and Arena
12. Municipal Hospital
13. Fire Hall
14. City Parking Lot
15. Mesabi Community College
III. PARKS and PLAYGROUNDS
16. Olcott Park
17. Southside Park
18. Bathing Beach
19. Golf Course
20. Public Fishing Dock
MOUNTAIN IRON
D M & N Ry.
D M & I R Ry.
Silver Lake
Virginia Lake
Hopper
Nimegankai Lake
EVELETH

state. It was a shopping center for all of the eastern Mesabi Range and a terminal for four railroads running in twenty trains per day.

Today, Virginia is still the bustling center for iron range business, education and government. It is what we would expect a small city would be: a center of activity for all the region, a place of entertainment, recreation shopping, sports events, financing — fun and business combined for the whole family.

It proudly calls itself the "Queen City of the North."

Oldtown/Finntown

Upon completion, the unique Oldtown/Finntown restoration, with its wood block streets, board sidewalks, transportation, shops and homes from the 1890-1910 era will give visitors a special feeling for life in an ethnic neighborhood of the Iron Range at the turn of the century.

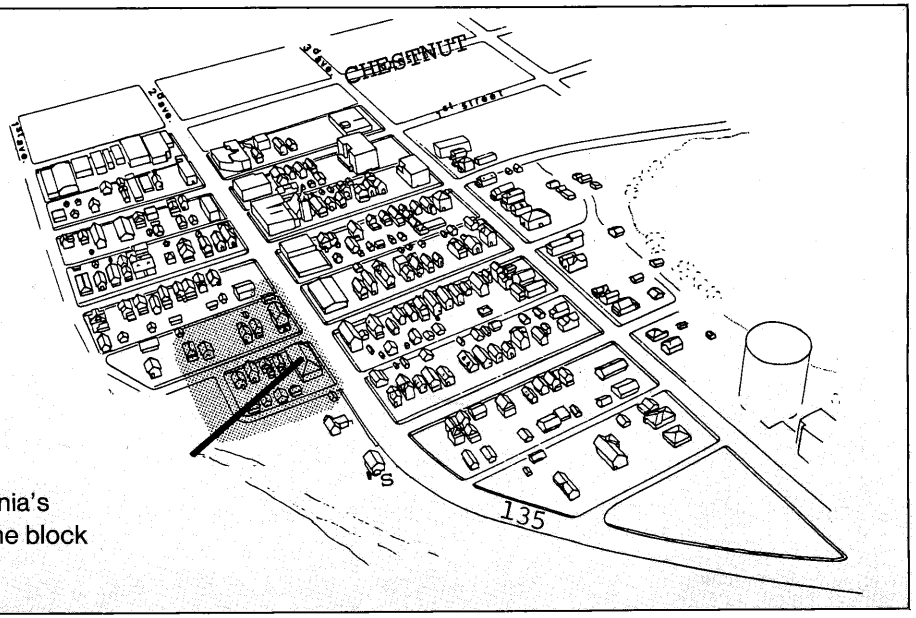
A comfortable walking tour of the Finntown neighborhood will include the historic Kaleva Hall, a prominent landmark between Highway 135 and the open pit mine to the east. The Hall has served several generations as a social gathering place; mine workers and their families were drawn to this bulwark of the Finnish culture when they first arrived as immigrants, and the Sons and Daughters of the Kaleva meet there today.

Virginia at a glance

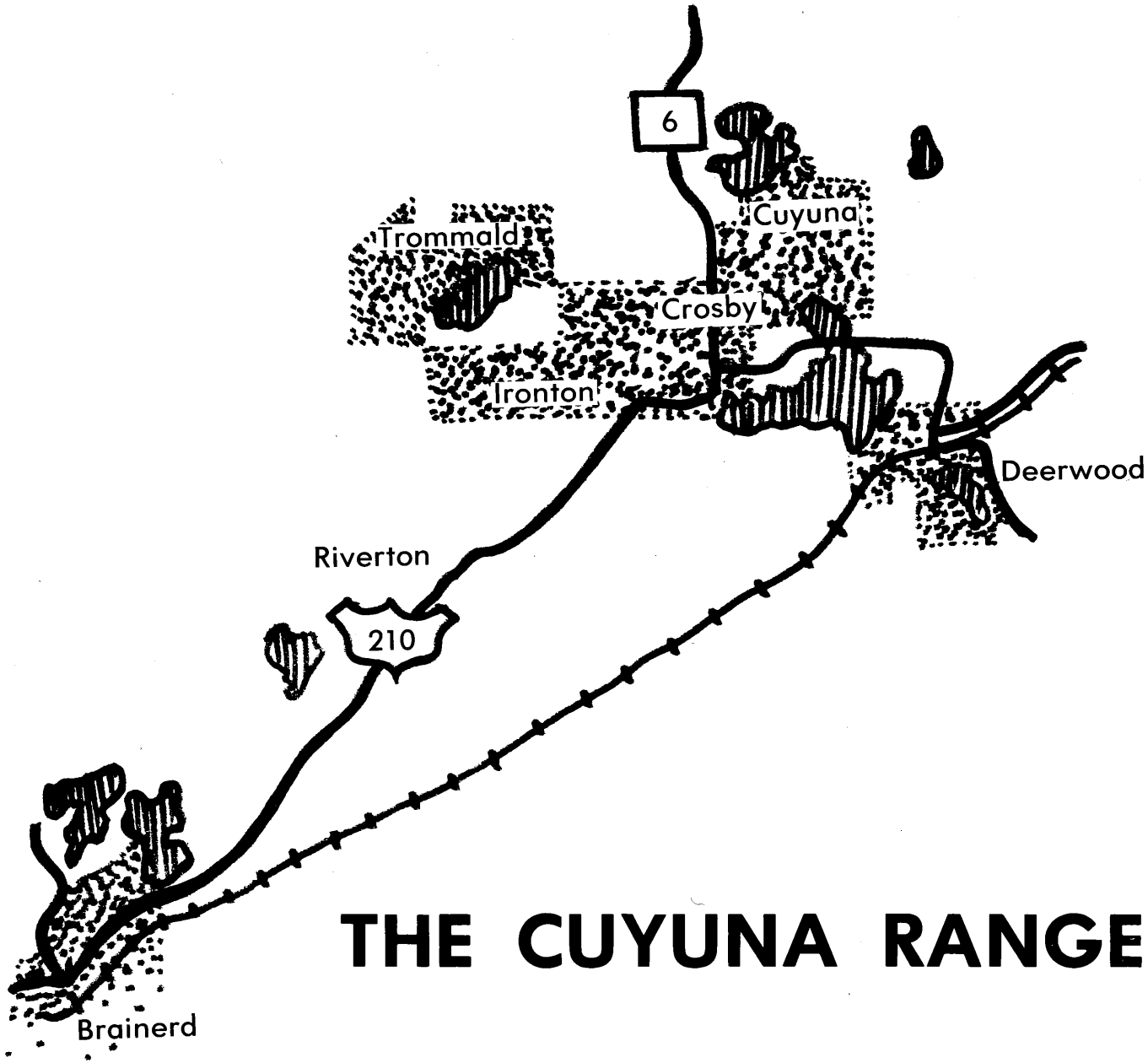
For general information:
Chamber of Commerce - 233 Chestnut Street, Virginia, 55792 - 218/741-2717
For recreational facilities and schedule information:
Recreation Board — 741-3583
Park Board — 741-4366
Emergency services:
Hospital — Virginia Municipal, 741-3340
Clinics — East Range Clinic, 741-0150
Lenont Peterson Clinic, 741-4292
Ambulance — 741-1488
Police — 741-2191
Senior citizens drop in center:
516 Chestnut Street
Sports facilities open to the public:
* Golf — 18 hole Municipal course
* Ice Skating Rinks — 9 outdoor/1 indoor rink
* Tennis — 7 courts
* Softball fields
* Swimming — Silver Lake, N. 4th Street & 9th Avenue

Visitor attractions
* Kaleva Hall
* Old Town-Finn Town
* Interurban Streetcar Buildings
* Viewpoint In The Sky — Rouchleau Mine
* Chestnut Street
* Olcott Park
* Mesabi Community College
* Miner's Arena and Memorial Building

Special events:
* Lion's Annual Fishing Contest — 3rd Sunday/ January
* Finlandia Weekend (X-country ski races) — 1st and 2nd weekend in February
* Land of the Loon Ethnic Arts and Crafts Festival — 3rd weekend in June: Olcott Park
* Annual Begonia Show — Olcott Park Greenhouse all summer



FINNTOWN
Kaleva Hall is on Highway 135 in Virginia's Oldtown-Finntown one block planning area.



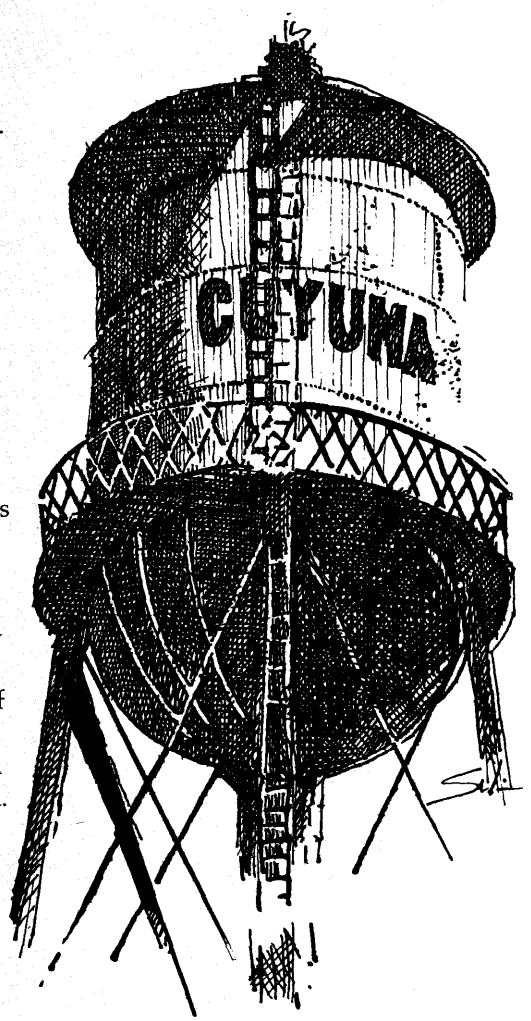
THE CUYUNA RANGE

Cuyuna Range

Following is a brief listing of Cuyuna Iron Range sites and towns of visitor interest. Mileages are listed from Brainerd on the west and Deerwood on the east. For more details on individual sites and towns refer to the page listings which immediately follow site and town names.
NOTE: Starred locations are highly recommended and may call for visits of one hour or more.

Leave Brainerd on Highway 210 East following signs to Crosby and Deerwood.

1. **Brainerd** — mile 0.0/18.0
** A. Crow Wing County Museum
2. **Brainerd Airport** — mile 2.5/15.5
3. **Riverton** — mile 8.8/9.2
Turn north at sign onto County Road 29. Follow 1 mile to Riverton.
4. **Trommald** *(page 200)* mile 12.7/5.2
To get to Trommald, in Ironton turn north at Irene Avenue (County Road 30) and follow past the Portsmouth Mine Sintering Plant Site (1 mile) for three miles. Trommald is the best example of a Cuyuna Range location town.
5. **Ironton** *(page 194)* mile 12.7/5.2
A. Spina Hotel *(page 195)*
B. Ironton Town Hall at the corner of Irene and 3rd Street, 1 block north of Highway 210.
6. **Crosby** *(page 179)* mile 13.0/5.0
** A. Crosby Historical Museum — located in the Crosby railroad depot at 1st Street North and Hallett Avenue.
** B. Croft Mine and Stack — Turn north onto 2nd Avenue East; follow street until it turns right. Park. You will be able to see the stack ahead to your left. Follow path to site.
** C. Scorpion Snowmobile Plant Tours
** D. Portsmouth Mine Dump Overlook — This is the best viewpoint on the Cuyuna Range. For an afternoon's hike, turn north onto Arville Avenue in West Crosby (follow signs to Scorpion Plant). Continue past the plant for one block. On left you'll see a road (walk only) which winds around the mine dump to the top.
E. Crosby miners' cottages — on streets north of Main Street.
F. Crosby Tourist Park on shores of Serpent Lake. For an interesting side trip, when entering Crosby continue straight north on Highway 6 instead of turning onto Crosby's main street.
G. Portsmouth Lake and Mine Pit — Deepest Lake in Minnesota (480 feet) and stocked with rainbow trout. ½ mile north of Crosby on Highway 6.
H. Heineman Rearing Pond — 4 miles north of Crosby on Highway 6 to the Mississippi River bridge, then east three miles on County Road 11. This is a 17 acre walleye pike rearing pond.
7. **Cuyuna** *(page 199)* mile 15.0/3.0
Turn north onto County Road 31 and follow 2.5 miles into Cuyuna.
A. Cuyuna Fire Department — originally the Cuyuna bank building.
8. **Deerwood** *(page 199)* mile 0.0/18.0



The Cuyuna Range

Rising early in the morning, you can walk to the water's edge and hear a redwing blackbird chit and trill among the cattails in a cove near the boat landing.

You stroll along the sidewalk, past the town park; is that sprawling, turreted white house looking out over the lake a mining captain's house from "old days"? These smaller cottages all in a row, now, similar in architecture beneath modern additions: miners' cottages? And here a dry goods store with the date of the building above the great frame door. .

You let yourself into a small cafe, and leaf through the newspaper casually left on the counter for customers, while you eat your pancakes and sausage. The waitresses are friendly and cheerful: *"How's the fishing?"*

The Cuyuna Range today is a land of quiet lakes, pine woods and small communities: the villages of Crosby, Deerwood, Ironton, Trommald, Riverton, Cuyuna. Located southwest of Minnesota's large Mesabi Range, it's a favorite family resort area, well-known for boating, fishing, swimming, and in winter, skiing, snowmobiling, snowshoeing.

Serpent Lake, Rabbit Lake, Foley Lake, popular for family-centered activities today: waters such as these were once cursed in many tongues!

This range wasn't destined to be the iron range of the big companies: Oliver, Hanna, United States Steel. From 1893, a few individuals explored, discovered, built communities, and ran mine operations in ways they hoped would bring a measure of humanity to an industry fraught with greed and recklessness.

Cuyler Adams, George Crosby, John Savage: they studied hard, labored unceasingly, planned for the future, treated their workers well.

But the very ground under them seemed to be in deadly opposition. Honeycombed with hidden water pockets and high water tables, the earth took its toll on these men's dreams. Shaft after shaft filled with water and mud. Water pressure exerted too great a force against mine timbers and they gave way, crushing and maiming workers. Lakes burst in upon the stopes and drifts, trapping and drowning more victims.

And, after all, the Cuyuna iron ore was of the lowest grade to be found on any of the Minnesota ranges. It did contain manganese, a mineral much in demand for munitions during World War I, and during this period the Cuyuna Range boomed despite its hazards. But all the ore had to be processed in beneficiation plants to raise the percentage of iron in the tonnage shipped to market.

The only mine working today is the Algoma-Zeno. Ore dumps dot the landscape, attesting to a short-lived era of individualism.

And the water, always seeking its own level, fills the mine shafts and open pits. The Portsmouth Pit is stocked with trout, and today visitors flock to the Cuyuna region to enjoy vacations along lake and river shores.

A windlass and a bucket

When I first came to the land I homesteaded in Section 28, I tried to locate the corner post where Sections 28, 29, 32, and 33 met. This was in the spring of 1893. While trying to do this, I noticed some pits about ten rods south of that corner. The pits had been dug a long time before. The dirt that had been thrown out had washed back in them and the timbers were all rotten. Lying beside one pit was a big pile of peculiar-looking broken rocks. A windlass was still in place and a bucket lay beside the pit. No one lived within miles of the place and I had found no traces to show that anyone ever had lived near there, so I took the windlass home with me and made it into a handle for a grindstone. And I took the bucket, too, as it was handy to have on the farm.

Although I often wondered what the pits had been used for, it was years before I found out. I was married in 1903, and some time after that a man named Henry Pajari stopped at my place and stayed overnight. He had come to look over the land he owned in Sections 28 and 32. He told me that he had prospected for iron ore many years before (starting in 1882) and that he and his helper had sunk the test pits that I had found. Besides going over

Duluth, 1895

a great deal of territory with a dip needle, he had sunk another group of test pits up toward the Mississippi, between what he thought was called Miller Lake and the river. And it was at that time he told me that the big pile of rocks beside the one pit was float ore. Somebody carried off this ore later; I think it must have been some farmer who wanted to build with it.

This part of the country was a wilderness when Pajari worked here. He said that his principal landmarks were a big rock on what is now my brother's (Emil Hanson) farm, another on the northwest quarter of Section 28, and an enormous pine on the shore of Blackhoof Lake. He said that it was while prospecting on Section 28 that he had lost his dip needle. After losing the needle, which had been very expensive, and running into water every time he tried to sink a pit, he was forced to quit, as his backers became discouraged and would not put up any more money. But Mr. Pajari had such faith in the venture that he came back next year and bought land in Section 28 and 32 with every cent he could raise. He never got anything from his investment as the virgin pine had been logged off before I came, and later the second growth was stolen, too.

The years passed on, and fate decreed that Cuyler Adams, not Henry Pajari, should be the discoverer of the Cuyuna Range. *I failed in the undertaking,* said Pajari, *but it was a great adventure and I never felt disappointed about it. I have found lots of happiness in life and if I had been successful in my finding a new iron range, my head might have been swelled.*

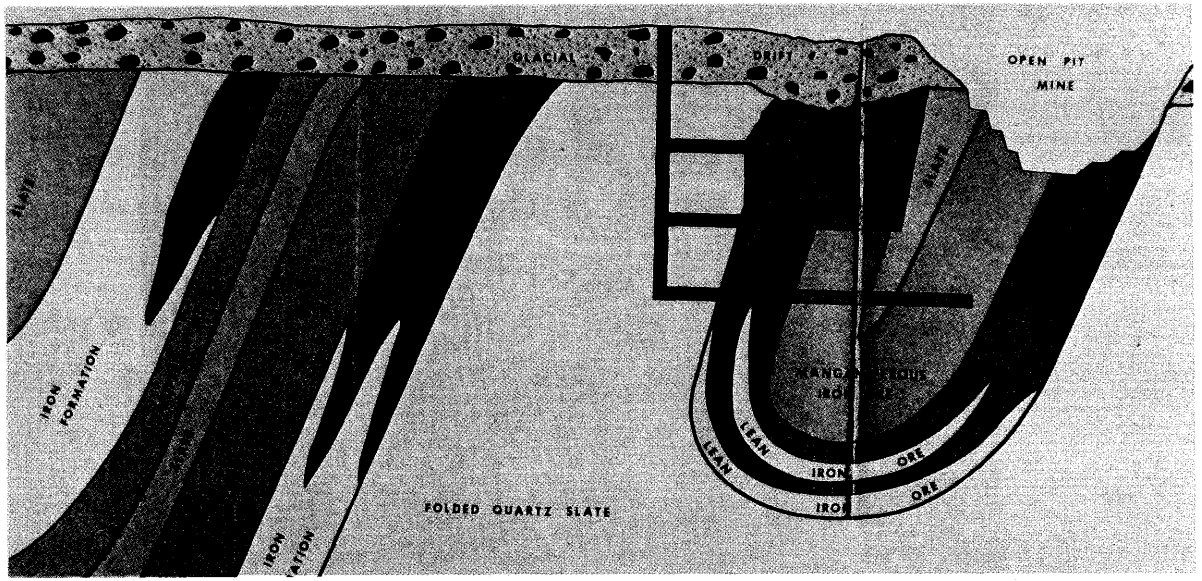
Cuyler Adams

Cuyler Adams sat at a mahogany desk in the Astor Library in New York City, voraciously reading everything he could get his hands on that had anything to do with locating minerals by their magnetism. The best texts on the subject were written in Swedish and he had to hire a translator . . .

Educated by private tutors and at Poughkeepsie Military Institute in New York, he had been advised for health reasons to abandon his studies and to find work outdoors.

Following that warning, he arrived in Duluth, Minnesota, as a young man, with fifty dollars, and was grub-staked by a merchant. He spent a year

Cuyler Adams



A typical Cuyuna Range Mine.

near Lake Vermilion, trading, trapping, learning to speak Chippewa, and at the end of the year he had saved five hundred dollars and regained his health.

He then joined the Northern Pacific Railroad, starting as a rod man on the surveys and advancing to land examiner.

In every business venture, his foresight and sense of timing reaped bonanza profits. Virgin Dakota prairie land, Northern Pacific railroad stock which he exchanged for land: all turned a profit for him, and even while he was re-selling the land, he cultivated record crops on several thousand acres!

One small venture, however, failed miserably. He used his mules in the winter, when they were not farming, to haul freight to the gold camps in the Black Hills. Not wording his contracts specifically, he agreed to haul freight at a specified rate per pound, although he did not state what **kind** of freight. He found himself hauling barroom mirrors, rocking chairs, and other freight that needed a maximum of space for crating but weighed very little. He lost money, and learned about contracts!

Adams bought land around Deerwood and settled there, logging and selling the ties he cut to the railroad, and operating one of the first sawmills in the area of Black Lake.

Surveying his property lines to determine exactly the boundaries, he noticed that at noon his shadow and the compass needle did not correspond. At a short distance away from his first observation, the two corresponded. He made the assumption that only a large, buried body of ore could account for the difference.

It was to find the ore and prove his assumption that he was now poring over mining texts in the Astor Library. He would use his self-taught methods to begin mapping the ore body on his return to Deerwood.

His tools were a magnetic compass, a dip compass which points downward as it is carried over the ore body, an aneroid barometer, and a pedometer. With such simple equipment, he eventually established the size and shape of the ore body, mapped the topography of the country, and computed the distances of the major features.

(left) *First drill site on the Cuyuna Range. Note the tripod at the right of the picture.*
(below) *Adam's St. Bernard, Una's gravestone*

Each day he recorded his findings in a notebook and then transferred them to a map in the evenings. His only companion during the days outdoors was his St. Bernard, Una.

After his discoveries were made known, he was asked to name the new range, and his wife suggested the combination of his name and the dog's ("Cuy-Una"). Some time later, Adams would receive a letter asking for information on the Cuyuna Indians, which became a longstanding joke on the Cuyuna Range!

He made some guesses as to where the richest deposits of ore lay, and began locating the owners of the lands to try to buy it or reserve options on it. Even when he revealed his findings, he was not taken seriously; his neighbors wondered at this man who spent his time wandering "aimlessly," and men in the mining business did not believe ore could be found where there were no outcroppings as on the Vermilion or Mesabi Ranges.

Adams had spent most of his personal money on buying land and financing himself, and then needed backers to begin drilling to verify his finds. He had a difficult time persuading anyone; finally W. C. White, an attorney, talked eight men into advancing eight thousand dollars for exploratory drilling on the Cuyuna Range.

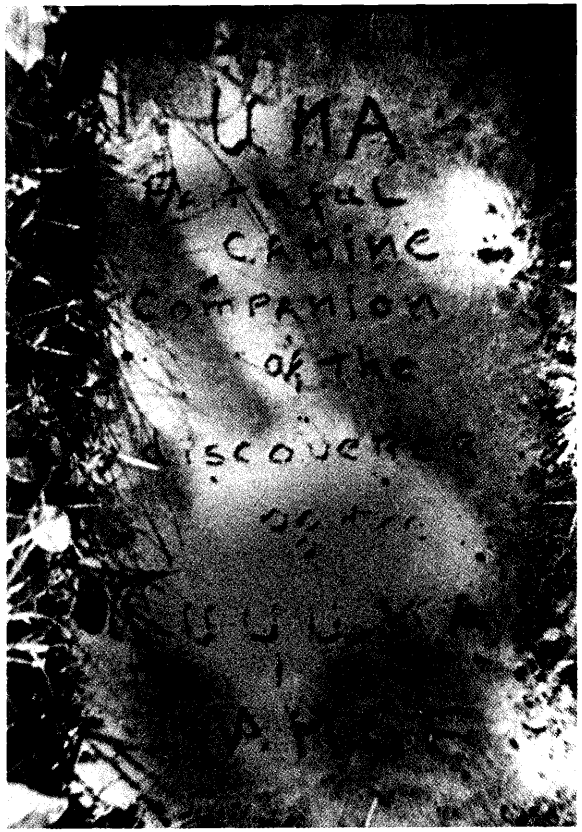
Drilling began in May, 1903. Only low-grade ore was discovered.

Others began drilling, and Oliver Iron Mining Company drilled twelve holes without finding high-grade ore. The winter of 1903-1904 was truly one of "discontent" until merchantable ore was found in 1904.

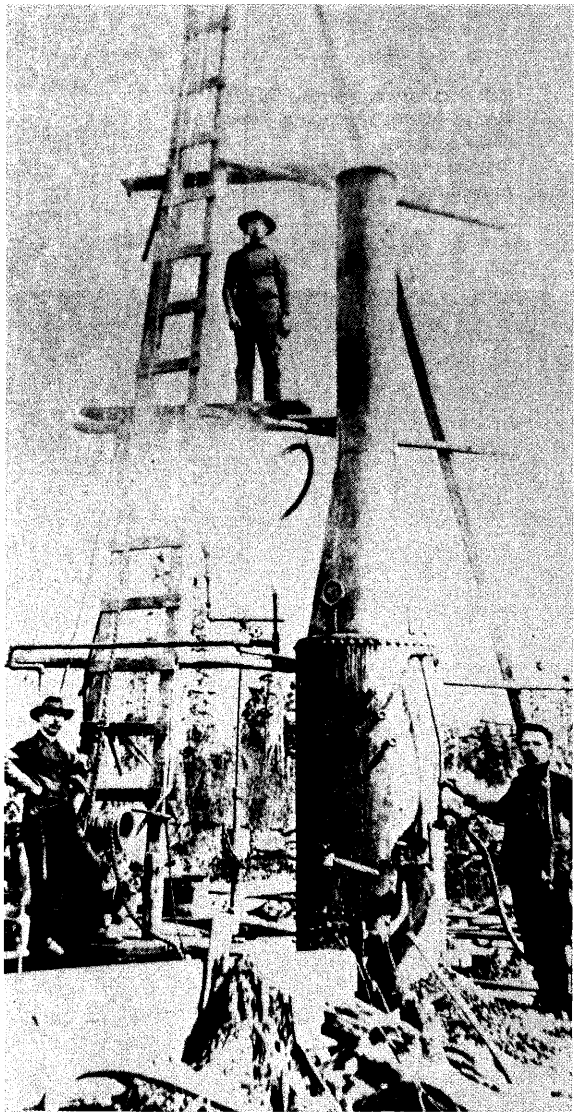
Cuyler Adams' Orelands Mining Company put its drill on property near Rabbit Lake (T. 47, R. 28), and their work there had far-reaching effects.

Hole Number One was put down on a maximum; that is to say, at a point where the readings of the dip needle were greatest. It has been subsequently learned that ore rarely occurs on the maximum because iron ore itself is less magnetic than the formation from which it is derived.

Not very much of the original money was left in the treasury when a large boulder was encountered by



Deerwood, 1910



the drill. It became necessary to abandon the original location of this hole and move 50 to 100 feet over. I cannot recall whether this was to the north or to the south, nor do I recall the exact distance. Had the original hole been continued successfully, low-grade iron formation would have been discovered and possibly the backers of the enterprise would have been sufficiently discouraged to abandon their efforts. This, of course, is pure speculation. It might have been that the finding of an iron-bearing formation would have been sufficient to stimulate further activity. As a matter of fact, however, the new hole, being off maximum, was exactly in the right situation and encountered excellent grade ore which subsequently became a part of the Kennedy Mine.

The Kennedy Mine

Even though the drilling by the Orelands Company had proved a rich body of ore lay at the Kennedy site, Orelands was having trouble finding a company to operate a mine. The Cuyuna Range was in a general state of discouragement because of the failure of the Pickands-Mather Sigma Mine, which was deluged by water in November of 1905, and the failure of the Oliver shaft, which was deluged in June of 1906.

William C. White, one of the earliest believers of Cuyler Adams and co-founder of the Orelands Company, went to many steel companies before he finally interested S. A. Kennedy, the president of the Rogers-Brown Ore Company. They were already operating on the Mesabi Range and leased the land from Orelands.

The shaft was started in July of 1907 and was down 60 feet by September, and by that time work on the engine house, blacksmith shop and other mining buildings was nearly completed. But in January the shaft work was halted by water rushing in at the 80-foot level. Initially there was some concern that the shaft could not be finished because pumps capable of clearing 1,000 gallons per minute were not able to lower the water level! But the work was not given up, and it was determined that the water was not coming from Rabbitt Lake and that the pumps should eventually remove the water. By April, the shaft was down to the ledge rock, the solid beginnings of the ore formation. A stockpile was started in August of 1908.

All material had to be hauled by wagon or sled from Deerwood to the mine site. It cost as much to haul

coal from Pittsburgh to Deerwood as from Deerwood to the mine.

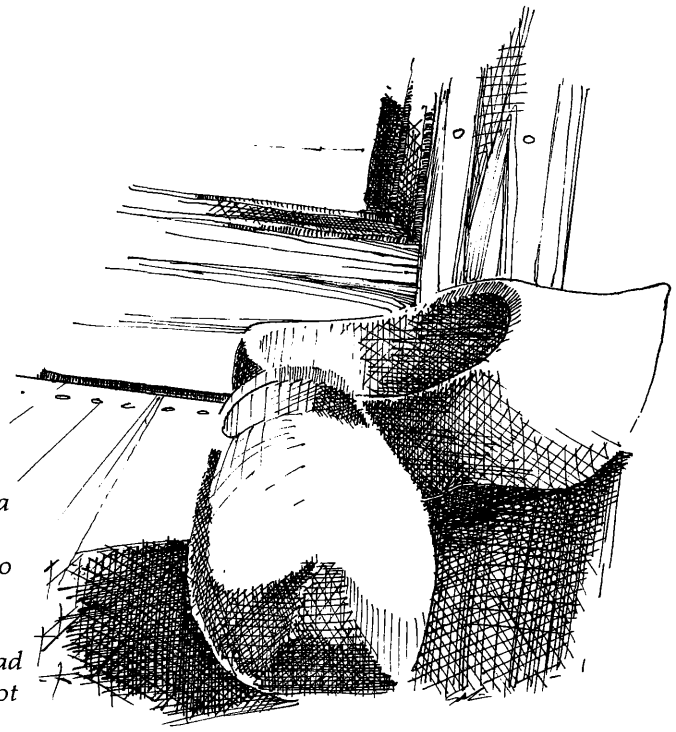
In November of 1909, a four-compartment shaft (see Pioneer Mine) had been sunk to the ledge, and the mine was ready to install heavy equipment. But a railroad to the mine was needed to bring in the equipment economically. In January of 1910, the first train brought the equipment and nine carloads of coal.

Finally, on Thursday, April 11, 1911, the great day arrived when an ore train was to leave the Cuyuna Range for the Superior docks. With bands playing and whistles blowing, with the cars decorated with placards and banners, with "everybody" there, the train left the Kennedy Mine. Monster engines drew forty-two cars of ore.

The train was on its way to the docks, but there were still a few obstacles to be overcome. It got as far as Iron Hub (about three miles), when the Superior yardmaster ordered it held there. It was May fourth before it started again for Superior, scheduled to arrive that afternoon. But fate was against it, and between Blackhoof and Frogner, the hopper of one of the ore cars opened up, causing fifteen cars to jump the track and land in a ditch. The remaining cars reached Superior the following afternoon. Here they were put on a side track, as the docks were not yet ready. Late that month, however, the steamer **Alva** was loaded with the first cargo of Cuyuna Range ore.

The Kennedy Mine, first mine on the Cuyuna Range to ship ore, 1911

The land changes hands



The summer of 1905, George H. Crosby, who was to play such an important part in the development of the range, secured an option on the farm owned by Fred and Chris Ehrich, near Rabbit Lake, just east of the land which Cuyler Adams and his associates had been drilling. The purchase of this property is vividly described by Mr. Crosby, who says:

The Ehrich Brothers owned it, and it contained about two hundred acres, partly in a wooded lot and partly under cultivation. Mr. and Mrs. Ehrich wore wooden shoes and could speak very little English. We took an option to buy the land with the right to explore same for iron. The price we were to pay was thirty-two thousand dollars in cash if we decided to make the purchase. At the end of our option we had not found enough ore to warrant its purchase and the Ehrichs kindly extended the option for the term of a year.

Before this term was up we decided to buy in accordance with our option. We had a deed made out and went to their home, which was still on the land, with a certified check for thirty-two thousand dollars, less one thousand dollars that we had paid for the option, which was part of the purchase price. They did not know anything about the value of a certified check and they refused to accept it. They wanted the money in legal tender, and in order to convince them that they could get the money on this check, we went to the bank at Aitkin. The check was cashed and they took the money. I had a hard time to convince them that they should not take this money home with them.

They finally came to me and asked me to advise them what they should do with the money. I convinced them that they should buy a good farm in Illinois, which they did and went there to live. They invested the residue in farm mortgages and became very prosperous and happy.

Real estate was changing ownership rapidly; it was estimated that one million dollars worth would change hands in the first quarter of the year. It was good news, too, when William C. White, and Con O'Brien, one of the Brainerd men who had backed Cuyler Adams, received a royalty payment from Adams, the first such payment to be received in Brainerd. Prospecting was going on in widely separated parts of the county and the statement of "Country Cousin" in the **Brainerd Dispatch** of January 19, 1906 reflects the prevailing tone of the country districts:

Long Lake is getting into line with Oak Lawn in the iron industry, recent prospecting with the dip needle showing good indications of iron. What a change will have taken place a few years hence when every farmer becomes a mine owner!

In commenting on the purchase by Judge Jolland of Brainerd, of the Cameron place just east of that city, saying he paid 5,000 dollars for 120 acres, the **Brainerd Dispatch** says:

It is understood that there are but few pieces of land left between Brainerd and Deerwood along the Cuyuna Range that have not been sold during the past few months!

George H. Crosby

The Cuyuna has arrived and Crosby is its center!

The City Built to a Plan

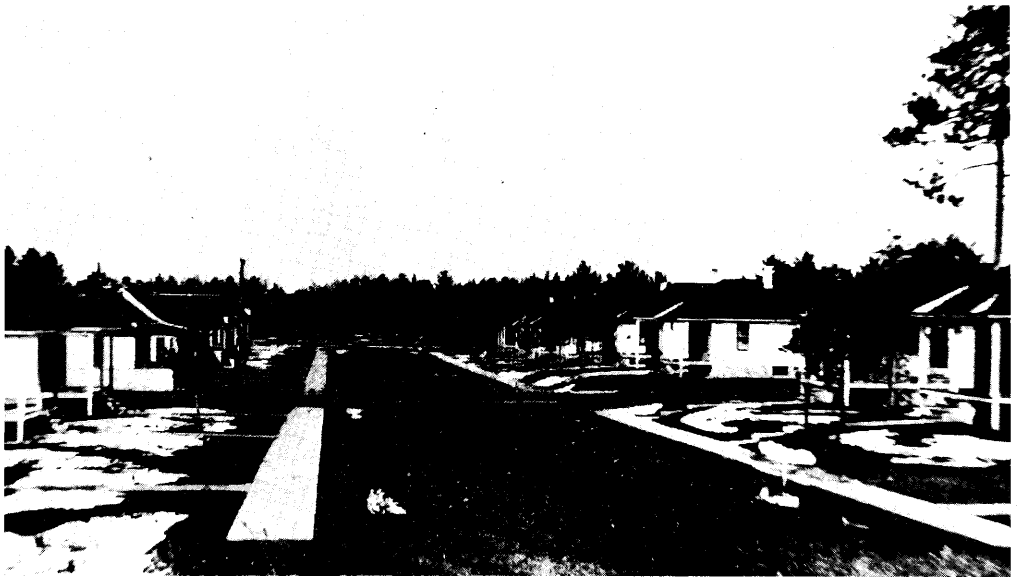
Five years ago the site of Crosby was an open field. Today (1913) it is a village of three thousand population, with the equipment and progressive signs of a city, and with an atmosphere of stability as though it had a generation of accomplishment behind its transformation.

George H. Crosby of Duluth foresaw there must be a modern city on the Cuyuna. It had then one mine under development and a number of fine prospects. On the wooded shores of Serpent Lake, for generations known as one of the beauty spots of Minnesota, he chose the Crosby townsite, high and dry and wholesome, an almost level tract with a gradual slope away from the lake and toward the Mississippi.

Determined to avoid the mistakes of the older mining towns, Crosby had the tract thoroughly drilled to make sure there was no ore under it. Many mining towns were shiftless camps because people never knew when they might have to move to make way for the mines. Mr. Crosby meant Crosby to be a permanent town from the start.

Every deed to a lot in the original plats of Crosby

Crosby, 1914



Crosby's miners' cottages

Advertisement for the town of Crosby in the Crosby Crucible

Read This

It's About Lots
In Crosby, Minnesota

In order to close out, very quickly, the few unsold lots in
"Lake View" and "Hales Addition"
to Crosby, Minnesota
which are near the lake, near to town and handy to the mines

Will S. Pitt, Crosby, Minn.
will sell

Lots, 1, 2, 5, 6 and 7 in B 9 Lake View Addition, at $150 each. $15 down, balance $7.50 per mo.

Lots, 7, 8, 9, 10 and 11, B 1 Lake View Addition, at $100 each. $10 down, balance $5 per mo.

Lot 20, B 5 Lake View Addition, at $250. $50 down, balance $10 per month.

Lot, 21 and 22 in B 2 Hales Addition, at $100 each. $20 down, balance $10 per month.

Lots, 19, 20 and 27 B 1 Hales Addition, $175 each. $20 down, balance $10 per month.

One fine lot on Cross avenue, $225. $25 down, balance $15 per month.

Interest only 6 per cent

I also have lots for sale in other parts of town at the lowest possible prices and on the easiest of terms. Surely, this is better than paying rent when you can get a nice lot at these prices and on these terms and soon have a nice little home of your own.

Remember this, if you want a lot in Crosby. It will pay you to see

WILL S. PITT

came without mineral reservation. There were to be no removals, no tearing down. There were no uncertainties in the way of substantial improvements.

Assured of permanency of site, Mr. Crosby developed plans for permanent improvements. Streets were graded and graveled, broad sidewalks constructed with cement curbs, water mains and sewers laid in the alleys.

According to Crosby's own advertisements:

Broad streets bordered with trees invite one to be at home in Crosby, and parks are included in the Crosby policy of foresight. A stretch of lake shore, dedicated to the public, gives a playground with grassy slopes and sandy beach, where the miners' children may revel in delights that a millionaire's family goes a thousand miles to enjoy. There is space allotted to the boat club, too, a baseball diamond and bandstand.

Safety was an essential part of the Crosby plan. For the water supply, eight wells were driven through sand and gravel, through impervious hardpan, into the lower gravel beds; the water drawn was so pure that chemists used it in analysis in place of distilled water!

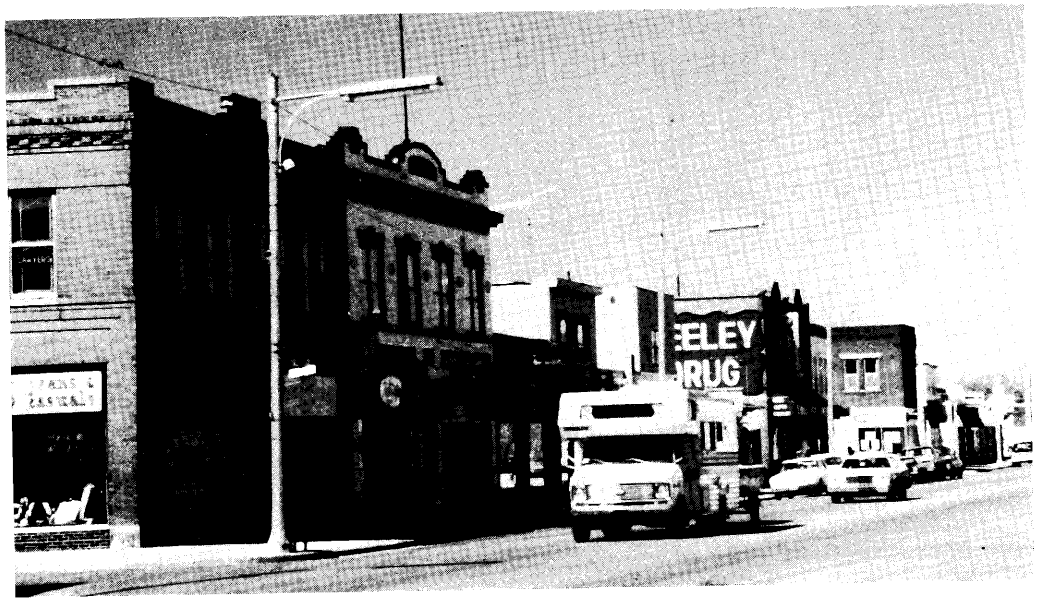
For fire protection, pumps could be attached in ten seconds to another battery of wells. And for emergency, an extra intake that ran out into the lake could be instantly coupled to the pumps. A storage tank holding one hundred thousand gallons gave head enough to throw a stream of water over any building in town.

A modern and complete sewer system was installed and at prominent street corners were to be found sanitary drinking fountains of the latest design.

A garbage can and platform to stand it on was part of the equipment of every house built by the Crosby interests. Screened windows were an invariable feature of these dwellings.

Crosby's dwellings were perhaps the most striking feature:

The handsome business blocks that line the main



(left) *Crosby, 1978*
(bottom) *The serpent, located on the shore of Serpent Lake in Crosby's municipal park.*

street are impressive enough. The White Way at night has quite a metropolitan look. But to one who has seen the clutter of the old-fashioned mining town, its huddle of hovels, its bleak barracks, Crosby is a scene from another world.

There are numerous homes, built to satisfy individual taste and fit the individual purse. But the miners' cottages, block after block, which will house the bulk of the population—these are in their way, the best thing in Crosby.

Modest, of course—many of them four-room dwellings—but think of a miner's home with running water and electric light, with screens for every door and window, with sewer connection, sanitary closet and set bowl, with hardwood floors and coldproof walls.

Think of these cottages each in its own plot of ground large enough for a bit of garden, each facing a broad street with cement sidewalk.

Think of a street of them, varying in design and color, to avoid the horror of monotony. No wonder mining locations have been abandoned in favor of Crosby! Men would rather live in these cottages and employers would rather hire men who live in such wholesome quarters.

There is no king nor magnate in the world whose grandfather was as well housed and as safely surrounded as the Crosby miner in his cottage that rents for twelve dollars a month.

Crosby profits by the experience and avoids the mistakes of older mining towns that, if they did not burn down first, had to be scrapped after a few years of misguided growth. Starting on a permanent basis, Crosby saves the investor five years or more of misdirection.

The speculative period on the Cuyuna has passed; Crosby Village, growing to be a city without any awkward age, is the established center of an established mining district.

The country was becoming settled, but slowly.

Today Crosby is a thriving community catering to the thousands of visitors who come to this Cuyuna Range town for the recreational opportunities the region offers. For example, more than 300 lakes offering black bass, crappie, sunfish, walleye and northern pike fishing, are within easy driving distance.

Crosby's residents, many of them former miners and the children of miners, have made the successful transition from iron mining to tourism.

Ingalls Ferry Landing

Before the railroads were extended to Crosby-Ironton and regular passenger service was established to the two cities, connections with the Northern Pacific railroad had to be made in Deerwood. Though there was a rough wagon trail around Serpent Lake, the usual means of reaching the depot in Deerwood was by launch, provided by the Ingalls Motor Boat Company. The company operated a regularly scheduled ferry service between Crosby and Deerwood, also supplying bait and camping equipment and forty steel rowboats for rent by the hour or day.

The boats:
Twin City—50 feet in length, capacity 75 passengers
Lotus—40 feet in length, capacity 40 passengers
Deerwood—25 feet in length, for private parties
Crosby—25 feet in length, for private parties.
Chippewa—18-by-65-foot barge with a hardwood floor used for large excursions and dances, equipped with a lighting plant.

The dances on the **Chippewa** featured live music and when held at night the lights and music often floated back across the water into town.

The launches also took school children to picnics at a pavillion at the north edge of Deerwood.

At Crosby there was a large boathouse with a dance floor on one side and a place for children to buy candy on the other.

The landing was across the road from the Crosby Armory to the east.

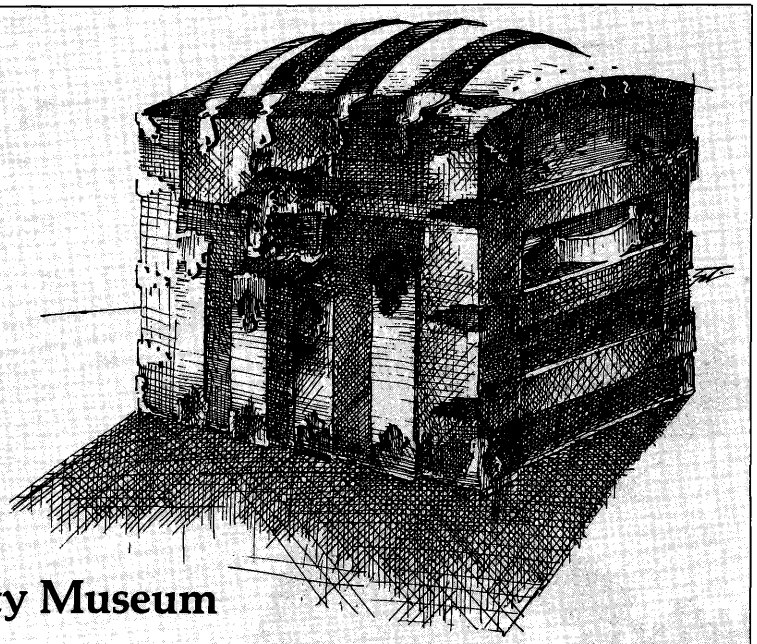
Crosby Historical Museum

Operated by the Cuyuna Range Historical Society, the museum is located in the Soo Line Depot. Well laid out, it has been arranged into informal groupings which give the displays continuity: kitchen and home, lace and clothing, china dolls, community, mining and minerals, photos and an indexed photo collection.

Open to the public in mid-June, the museum's summer hours are from 9:00 A.M. to 4:00 P.M., Monday through Friday.

Space Flight from the Cuyuna!

In August of 1957, the Portsmouth Pit, which would close a year later, was "paving the way for future ventures into space." Lieutenant Colonel David Simons was launched by a 280 foot plastic balloon from the Portsmouth Pit at 9:30 A.M., August 20, 1957. He stayed aloft in an aluminum capsule for 32 hours and reached a record height of 102,000 feet. The flight ended near Elm Lake on the North Dakota-South Dakota border. It was part of a series of experiments conducted by the United States Navy and Air Force on high altitude flight. The record was short-lived. The official record was set in 1961 and is 113,780 feet. There is an unofficial record of 123,800 feet set in 1966.



Crow Wing County Museum

Brainerd

There is a second museum in the county which has been in operation longer than the Crosby Historical Museum, but it has a different focus, the two cooperating to cut down on duplication. The Crow Wing County Museum gives preference to Indian artifacts, the Civil War, logging, early settlers, and Brainerd.

Summer hours are Thursday and Friday from 1:00 to 5:00 P.M., subject to change. Located in the County Courthouse basement in Brainerd now, it will be moving next door to the old jail building.

Indian artifacts: examples from the Woodland Culture—pottery; urns; bowls; stone tools; totem markers; grindstone (mortar and pestle); earthen cooking vessel, and other fragments; flaked stone implements; bone implements; spears and arrowheads; tomahawks; pipes; beadwork; birch-bark containers.

The settlers' lives: flintlock rifles; iron spear points; traps; hatchets; trade axes; clothing; household artifacts; stereoscope and photos; trunks; lanterns; sewing machines; baby carriage; old postcards; immigrant Bibles and prayer books.

Logging: hand carved wooden ox cart (full size); log stamp; hand tools; saws; model of a logging camp.

In 1922, at the Sagamore Mine located near Riverton, men operating the shovels that stripped the overburden uncovered prehistoric remains of animal and plant life. The remains have been dated as at least 35,000 years old. In this ancient forest were the full skeletons of an extinct species related to the buffalo, as well as horses, a giant beaver, and wood from the forest. Some of the remains are in the Crow Wing County Museum. The full skeleton was sent to Washington, D.C.

War!

That a declaration of war in Europe on August 4, 1914, should have an immediate effect on the Cuyuna Range seemed improbable, yet within ten days it had already resulted in directing attention to the possibilities of producing manganese on this range. Instructions were received from the American Manganese Manufacturing Company to increase the output of the Cuyuna-Mille Lacs Mine.

We were told, not to make any further contracts for our ore without hearing from headquarters, as, in the opinion of the directors in the East, there will be a demand for more than we can produce.

That fall a shaft was being sunk at the Brainerd-Cuyuna property within the city limits of Brainerd. Another was being sunk on the Cuyuna-Sultana property. A railway station named Hillcrest, west of the Pennington Mine, was receiving materials and machinery for a new mine. And in October it was announced that Clement K. Quinn and a number of Mesabi Range mining men had closed a deal for property near the Pennington Mine, and that they expected to start operations in the spring, using both underground and open-pit methods.

The World War exerted a tremendous influence on the Cuyuna Range. Its effect was two-fold: developed mines were worked to capacity, and new mines were developed at a rate undreamed of under normal conditions. Most of the new mines were created to supply demand for manganiferous ores. As no other mining district in the United States had potential tonnage of these ores compared to that of the Cuyuna, feverish efforts were made to supply the market with manganese—the import of this mineral so necessary in the manufacture of iron and steel products having almost ceased as a result of wartime conditions.

In 1914, 16 mines were operating on the Cuyuna. At the end of World War I, 40 were in operation employing nearly 3,000 men.

Men who worked in Cuyuna mines could be exempted from the draft because of the importance of their ores. The draft came to Crosby, though, and Jim D. was one of the first names picked. He was sure that he would soon be fighting in France, but John Savage, the mine operator, interceded. He came by the mine and asked Jim, *~~H~~ow do you really feel about going to war?*

To tell the truth, Jim answered, *all I have in this country are my own two hands—no wife, no mother to protect. I don't like going to fight.*

Savage answered, *You don't have to go to war—you stay and work the mine. But I'll tell you what. I'm going to the war!*

And so the young immigrant stayed at his post while the mine owner joined the army and went on to fight in the battlefields of France.

John Savage: he had bought, with other investors, eleven thousand acres of land in Crow Wing and Cass Counties, and from this initial investment, the Merrimac Mining Company was formed. Savage, with mining experience on the Mesabi Range, brought some miners with him to the Cuyuna. He was a popular operator, often joking with the men.

Savage was in charge of sinking the shaft and constructing the required mine buildings for the Croft Mine. He saw the work of a local stone-mason in Crosby who had built two homes from concrete block, and was impressed enough to hire the mason. He

placed this man in charge of construction of the smoke stack and other concrete foundations and buildings, and these are still on the site today.

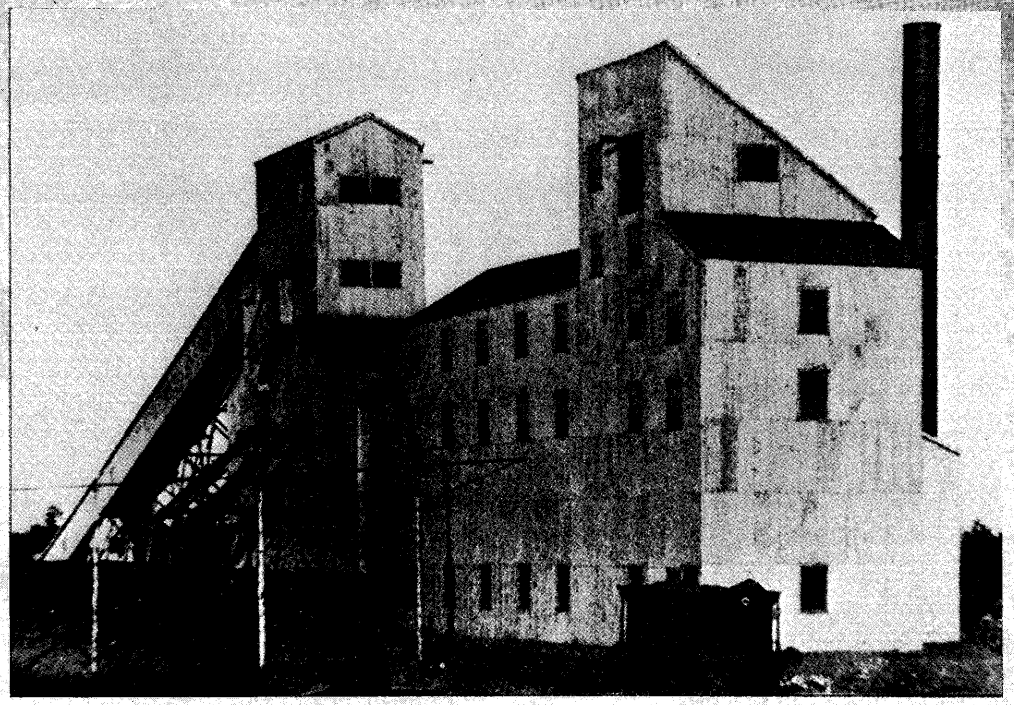
Situated just north of Crosby, the Croft Mine tapped the same ore body as did the Armour Number Two, the Thompson, and the Meacham. The ore was good, averaging in 1916, during its first year of shipping, 59.7 per cent iron.

The Croft contributed its share of manganese iron ore for the war effort and it continued to ship ore until 1934, when a total of 1,770,699 tons had been shipped.

Working at the Croft

"A dirty, sloppy place to work!" The miners did not blame the company for the wet conditions encountered in the workings; such conditions were a result of the nature of the ore body and the groundwater and underground water systems.

But miners wore heavy underwear, overalls, jackets, slicker, hip boots, slicker hat, and carbide lamp. The "yellow slickers," "oilskins," were sometimes not enough, and men labored all day wet to the skin.



Portsmouth Sinter Plant Site

The Cuyuna iron ore contained the lowest percentage of iron (other then taconite) of any of the Minnesota ranges. Beneficiation processes, which helped to separate the waste rock and sand from the iron, were thus "beneficial" or advantageous in improving the percentage of ore in the tonnage shipped to the steel mills.

Various methods of improving the quality or the structure of ore include: washing, drying, sintering, sinter drying, crushing, screening, and jigging (separating ore from waste rock.)

During the 1930's, the Portsmouth Sinter Plant had the largest sintering machine in the United States. The operation, fueled by crushed coal dust, was designed to take moisture out of fine iron and manganese ores, and to produce larger pieces for blast furnace needs.

The plant took fine ore resembling brown garden earth and heated it to high temperatures, driving off 30 per cent of the ore's weight in water and then producing "cinders" or sinter. The sinter machine was 6 feet by 127 feet and 18 inches deep. It was fed from any of five 70 ton storage bins and two 70 ton crushed fuel bins. The mixture was ignited by an ignition furnace which burned a gas obtained from fuel oil and air. At the end of the treatment, the ore was red hot and it was necessary to protect the sides of the ore cars with a water spray arranged to cool the material. At night the red hot sinter pouring down into the chutes was a local landmark.

The plant was purchased in 1945 by the M. A. Hanna Company and became part of the Portsmouth Mine operation. In 1958, the Portsmouth ores were exhausted and the plant was shut down. It was operated occasionally to treat other ores until 1966 when it was dismantled.

Several large concrete structures remain giving scale to the former plant along the east side of County Road 30, one mile north of Ironton on the way to Trommald.

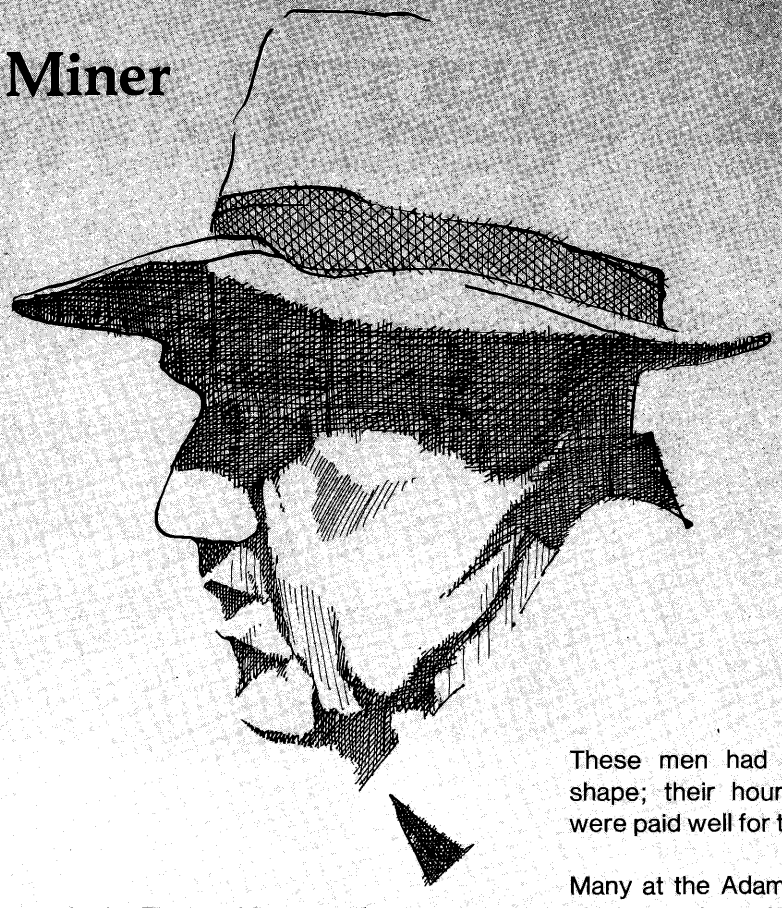
In 1972, the Portsmouth Pit, with a depth of 393 feet the deepest lake in Minnesota, was stocked with 2,500 rainbow trout, and is now providing sport fishing.

The Cuyuna Range Miner

The Algoma

I worked at the Algoma in Trommald when it flooded out. They had a big thunderstorm one night and the juice went off and it flooded out and they just left it. They never opened it again. It was such a wet place, when the ore come up, golly, it was half water.

I went to work with my partner and we worked there for quite a while and it got so wet you just couldn't stay there. Each day the water was like this—up to your waists—we had the double hats on, and the hip boots and two rain slickers, soaked wet after a couple hours.



Sand Hogs

I wanted to see new country . . . I remember taking the train from Duluth to Deerwood Station and then purchasing tickets to travel by boat to the new town of Crosby. —Old man Ingalls had a ferry service on Serpent Lake in those years. I had a chance for a job at the "Cuyuna-Mille Lacs" which was sinking a shaft not far from there. Well, I was supposed to go to work there but I didn't - - - you know. Things were much different then, a miner had to buy all his tools and clothes—boots, slicker, hat—and when I went to a store in Crosby to buy them, I saw a sign on the door. It said, "NO CREDIT."

I can tell you I was pretty disappointed. I had a partner with me then. He was my cousin, Widmar. He's dead now. We went over to the Spaulding Hotel to get a glass of beer and that's where I ran into a bunch of "sand hogs" from Buhl where I had once worked. They said come along and work with us at Orelands. We need a lock tender and we'll trust you to do the job. I took it.

Sand hogs were a special breed in early Mesabi and Cuyuna mines. These men were able to sink shafts in very wet areas by working under heavily compressed air for short periods of time.

Air was forced into the shaft under pressure to drive back all the mud, sand, and water, and sand hogs entered the pressurized shaft through a special lock. The high pressure (between 48 and 52 pounds per square inch) kept the shaft dry while the men worked. These men had to be in good physical shape; their hours were short, and they were paid well for their work.

Many at the Adams Mine at Orelands were black men brought to the area by the New York Foundation Company. To test men who wanted to work as sand hogs, the company maintained a pressure tank resembling a large steam boiler. Each applicant for the job entered the tank and the pressure rose to equal that encountered in the shaft. To pass the test, the applicant had to come out of the tank without bleeding from the nose, mouth, or ears! The working shifts required were usually only two forty-minute periods a day per worker.

Sand hogs were looked upon by other miners with a certain degree of respect—a respect they certainly earned!

Louise Mine

Three of 'em got killed—the big cable in the shaft broke before it got down. They didn't have the safety precautions then that they have now—always somebody gettin' hurt, gettin killed . . .

Lots of 'em got killed makin' mistakes—they'd blast and then they'd count the shots that'd go off, and then they'd go back in before dinner to see if they done any damage to their timberin'—and another delayed blast'd go off and kill 'em. That ain't the mining company's fault. The rules are don't go back until after lunch. Could be a delayed fuse and it'd take minutes before the fuse'd go off, y'know.

Well, We All Quit!

Some Italian fellows that stayed on, I swear they was in the hole—$.20, $.60, $1.25 a day—working! and in the hole! They didn't make their contract and they owed the company money for that 12 hours a day! That was the set-up in 1910. They probably had a tough one and used too much expense like fuses and caps and candles, and all that was charged against 'em—and the amount of ore they produced didn't cover the expense and in the end, by God, they owed the company for 30 days' work! I got the hell out of there and went to Duluth and worked on the section gang for the railroad.

Working For It!

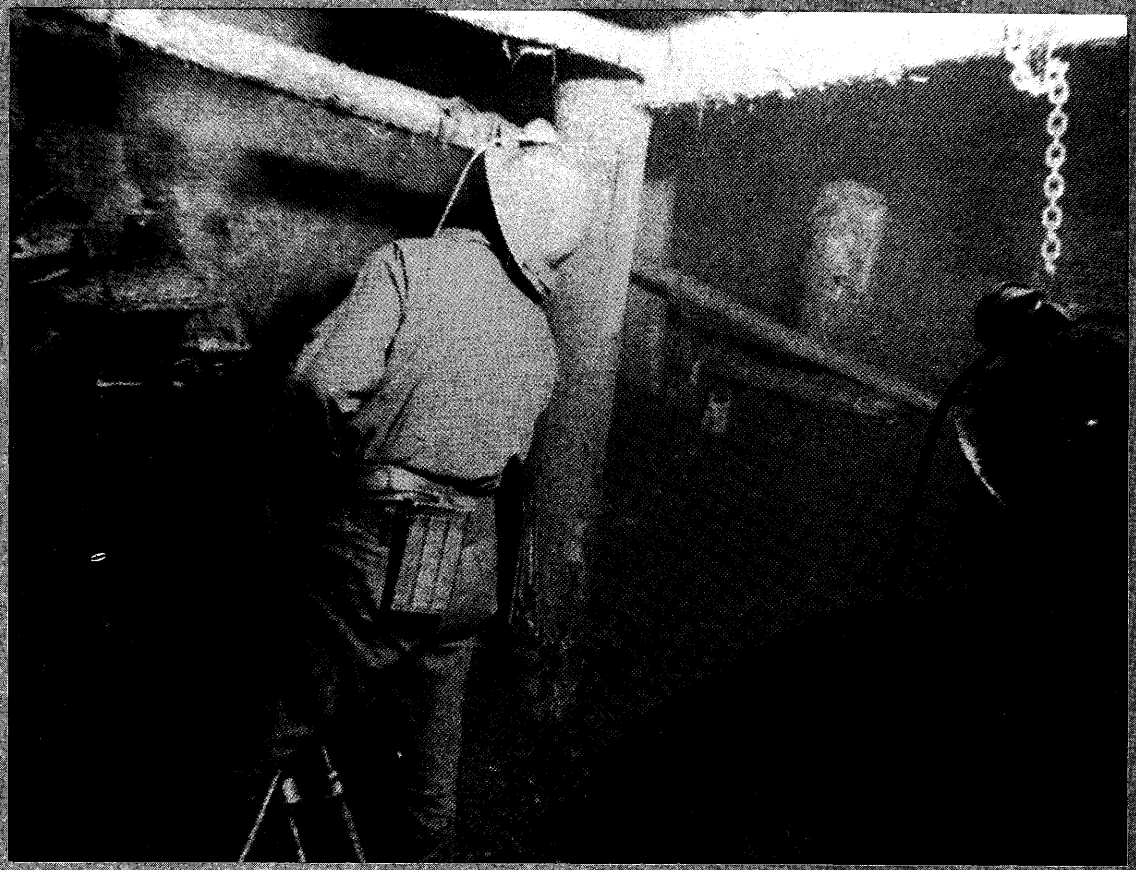
We worked so hard, contract—the company account was four dollars and sixty cents a day and we worked so hard that we made twelve dollars a day. The foreman come down and said, "Hey, yer makin' more than the superintendent!" and I said, "We're workin' for it, too!" We come down in the first cage in the morning and wait 'til the last one up at night. We had a pretty good place and we worked hard.

Cuyuna Range miners, 1940's

No Vacation

He was pumpman—they were partners, me, Dad, and Uncle Tony. They were both pumpmen and they both worked 12 hours a day, 30 days a month. Well, they had one day off a month and then the other one had to double over for 24 hours to cover while the other one had the day off.

In 1920, the miners made $5.00 a day, for a 12-hour day, 7 days a week, no vacation, no unemployment compensation, no insurance.



MINERS STRIKE

Nearly a Thousand Range Laborers are Out.

The Demands, April 1913:

1. That we be granted a straight eight-hour work day
2. That for all overtime we be granted time and one-half
3. For all Sunday work time and one-half
4. The abolition of all contract work
5. That a minimum wage scale of three dollars be granted for all work done in the mines—underground
6. That the hospital fee shall be born exclusively by the mine operators
7. That the fifty cent club fee be continued, with the proviso, however, that the mine owners shall assume the responsibility for the present so-called "club."

The Mine Owners' Response

Gentlemen:

Referring to your demands received today and addressed to Mine Operators, Cuyuna Range district. Each and every one of your requests has received our earnest consideration, we are obliged to refuse the same as being unfair, unreasonable and unwarranted for several good and important reasons.

Socialist leaders from other parts of the state had come to help the miners formulate their demands. According to the paper, many of the strikers were not in agreement with all of the views of these leaders, but there was little or no violence between the sides. The miners held their meetings in one of the halls in Crosby. After twelve days of strike which affected the Armour Number One and Two, Thompson and Kennedy Mines, some of the miners were preparing to return to work. And a mutual agreement was published in the newspaper which made some acknowledgement of the miners' grievances:

Mutual Agreement, April 26, 1913:

1. Nightshift will work 9 hours. The short shift on Saturday night (5 hours) will be cancelled. The shifts will alternate.
2. Miners will go down at the whistle 15 minutes before the shift and work 8 hours on the day shift.
3. Miner working in a wet place if he quits before the end of the month will be paid $3.00 to $3.25 per day. Quitting from a dry place before the end of the month, he will be paid $2.65 per day.
4. The companies agree to furnish 35 per cent powder for $5.00 per box, 40 per cent powder for $6.00 per box, fuses at $1.00 per ring and caps at $1.00 per box.
5. Contracts will be posted in the dry house.
6. All strikers will be taken back to work.
7. Insurance fund committee will be made up of different nationalities in the future.
8. The Company will furnish enough tools to work with.
9. Rogers-Brown and Inland Steel agree to these conditions.

Crosby the Metropolis of the — Cuyuna Range

THE CROSBY COURIER

State Firemen's Convention — at — Crosby in '24

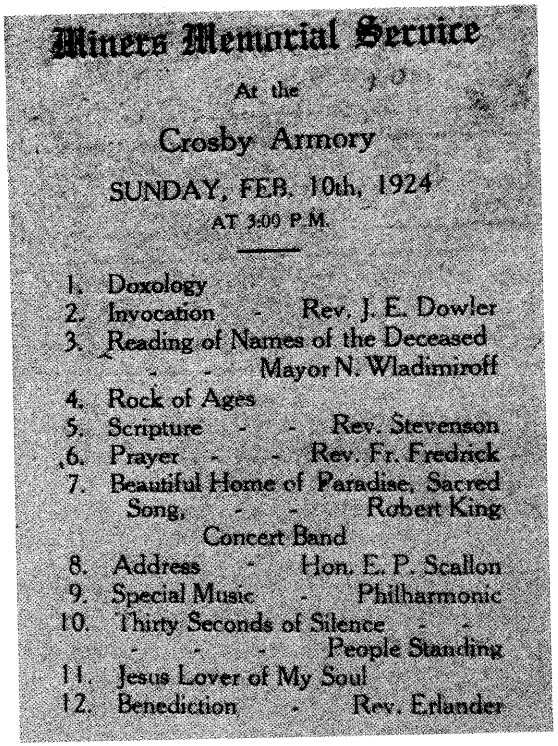
CONTINUING THE CROSBY CRUCIBLE

VOL XII | CROSBY, CROW WING COUNTY, MINNESOTA, FRIDAY, FEBRUARY 8, 1924 | No 45

FORTY-ONE MINERS MEET DEATH IN MILFORD MINE

Miners who died:

William Johnson, Crosby, 2 children
Clyde Revord, 45, Milford Location
John Minerich, 28, Manganese
Mike Bizal, Manganese, 5 children
A. E. Wolford, 35, Wilford, 2 children
Fred Harte, 37, Crosby, 1 child
Frank Hrvatin, 47, Crosby, 9 children
Elmer Houg, 30, Martin Location, 1 child
Mike Tomac, 43, Manganese
Marko Toljan, 39, Crosby, 4 children
Valentine Cole, 31, Milford Location, 2 children
John Hendrickson, 41, Manganese, 6 children
Nick Radich, 34, Milford Location
Martin Valencich, 27, Ironton
Minor Graves, 48, Manganese, 7 children
Henry Palomaki, 38, Crosby
G. H. Revord, 35, Milford Location, 2 children
Herman Hohm, 40, Crosby, 4 children
Harvey Lehti, 31, Milford Location
George Butkovich, 30, Ironton, 3 children
Tony Slack, 33, Trommald
Arthur Myhers, 26, Crosby
Peter Magdich, 40, Cuyuna, 5 children
Oliver Burns, 38, Ironton, 1 child
C. A. Harris, 36, Milford Location
Earl Bedard, 28, Crosby, 1 child
L. J. LaBrash, 35, Crosby, 1 child
Frank Zeitz, 34, Manganese
Joseph Snider, 39, Irondale, 6 children
Alex Jyhla, 45, Crosby, 1 child
Jerome Ryan, 23, Trommald
Emil Carlson, 32, Crosby, 4 children
Roy Cunningham, 36, Manganese, 4 children
Victor Ketola, 39, Crosby, 1 daughter and 1 son in Finland
George Hochevar, 36, Crosby, 6 children
Nels Ritali, 40, Brainerd, 3 children
John Yaklich, 30, Manganese, 5 children
John Hlatcher, 46, Crosby, 3 children
John Maurich, 39, Crosby, 5 children
Ronald McDonald, 32, 1 child in Scotland
Captain Evan Crellin, 42, Milford Location, 1 child



Miners Memorial Service

At the

Crosby Armory

SUNDAY, FEB. 10th, 1924

AT 3:00 P.M.

1. Doxology
2. Invocation - Rev. J. E. Dowler
3. Reading of Names of the Deceased - - Mayor N. Wladimiroff
4. Rock of Ages
5. Scripture - - Rev. Stevenson
6. Prayer - - Rev. Fr. Fredrick
7. Beautiful Home of Paradise, Sacred Song, - - Robert King Concert Band
8. Address - Hon. E. P. Scallon
9. Special Music - Philharmonic
10. Thirty Seconds of Silence - - - - - People Standing
11. Jesus Lover of My Soul
12. Benediction - Rev. Erlander

Of those who died, one had begun work only the previous day, and two had traded shifts with another team in order to get a ride to work. Captain Evan Crellin, mining captain who died with his men, was the son of a pioneer mining official at Eveleth, Captain John Crellin. Ronald McDonald, another victim, was on a visit from Scotland learning about American mining methods.

How did such a catastrophe happen?

In the blackest moment in Cuyuna mining history, some 15 minutes before the day shift was to go off duty, the waters of Foley Lake broke into the mine, drowning 41 men.

Within a span of 25 minutes, the mine filled with water to 15 feet of the surface. The 7 men nearest the shaft reached the ladder and climbed out. The other 41 were working at the 165-foot level and didn't have a chance.

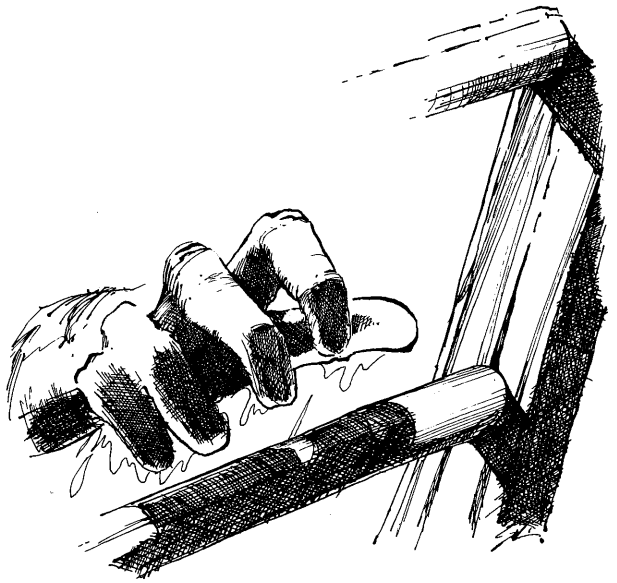
The cage was lowered from the surface only moments after the flooding; it came back with only mud and water.

It was just . . . confusion; people just couldn't believe what had happened.

There was just a gush of wind. They didn't have a chance in the world.

They paid off the families, but that doesn't bring back a life.

It is theorized that a subterranean channel from Foley Lake was gradually seeping into the mine, weakening its timber supports. They gave way suddenly and without warning. The mine had reached a depth of 200 feet with the main level at 165 feet and the sub-level at the 200-foot mark.



Ironton News

2/14/24 . . . in most cases the amount received (by the dead miners' families as compensation) will be about 20 dollars per week until the sum of 7,500 dollars has been paid.
. . . a large 4,500-gallon pump from the Sagamore Mine is pumping water from Foley Lake to Island Lake.

2/21/24 . . . Foley Lake lowered six feet: water in the shaft is being pumped out, but there is so much mud in the shaft that it has been necessary to stop the pump every few hours.

3/13/24 . . . The ice on the lake now slopes sharply to the center of the empty lake bed.

3/27/24 . . . Valentine Cole and Minor Graves were recovered Thursday, March 20 . . . On the body was found his brass identification check, which all miners were supposed to carry. The number was 130. The two were found at the rear of a tram car about 50 feet into the 135-foot level, leaning against the car. Cole evidently had been struck across the left side of the face with a timber. The two were clasped in each others' arms.

5/22/24 . . . The last exploration, which revealed the body of Victor Ketola, nearly cost the life of Captain J. Davies of the rescue crew. He fell and was nearly engulfed in a rush of mud and water. His men barely managed to pull him out and up the steps.
(According to another source, the miners had warned the captain that the small blast to be set off would bring a rush of water. He called them foolish when they hid around the corner of the drift. . . . He was injured and did not work for awhile after this incident.)

A receipt from the mining company for supplies bought by a miner had to be presented to get any compensation. If a receipt couldn't be found, no compensation would be received. And there was no compensation to the relatives of the single men.

The last body was taken from the Milford Mine on November 4, 1924. During the months after the flooding of the mineworks, there were children born who would never know their fathers.

...apolis
...for Min-
...on of the
...by assisting
... committee.
... Miss Mamie
...s trained social
...ssigned to Crosby
...se of the National
Cohen will assist
...ty Welfare Agent,
work and relieve

PUMPS WORKING AT MILFORD MINE

MEMORIAL SERVICE SUNDAY AFTERNOON—LARGE CROWD VISITS MINE SUNDAY

Will A... Making

For the ... payers in ... 1923 income ... lector P. N. ... from March ... sive. If ... ance in ...

How It Was

The Milford Mine disaster? You kin use your own imagination there—anybody who worked in the mines knows, but ye don't dare say nuthin'. Well—those Kennedy miners that moved from the Kennedy over there—the Kennedy was experiencing something that the Milford did experience: they were driftin' under the Big Rabbitt Lake from the Kennedy Mine and the Kennedy was leakin' bad—and that's when they decided to build that dam in the K. and get out and let 'er flood.

That's why a lot of the Kennedy miners were at the Milford—and they were doin' the same thing there—they were minin' under this little lake and pretty soon the shell couldn't hold the weight of the water anymore and she dropped all at once and that's what made the roar and trapped the miners.

God, the water come within 8 feet of the surface! Only 7 or 8 got out and the only reason they got out, they were near the shaft. Between the time they first heard the gush of wind, to the water being 7 feet from the surface was 10-15 minutes and you know how long it takes to climb a ladder 300-400 feet. The last guy to come out, he was in water up to his waist the last 50 feet going up.

They thought about capping the mine and having a mass grave there, but then they decided not to.

They pumped her out and took the bodies out. They took pumping gear that sucks out water and mud at the same time, and the engineers knew where all the workings were—and as they pumped and cleared out each place they found the bodies. It took a year before they got the last one—it was just before Christmas . . . Of course, it turned all those young mothers into widows. There was no insurance or social security then. I don't know how they got along. The mining company paid each family something.

You always blast in the evening just at quitting time or just before dinner at noon, and then you go up and don't go near the blasting 'til after dinner or the next day.

If they'd blasted then, everybody'd've been near the shaft and could've maybe gotten out. They should've never blasted when they got near that muskeg swamp neither. That water started in a hole opened by the blast and it cut its own way.

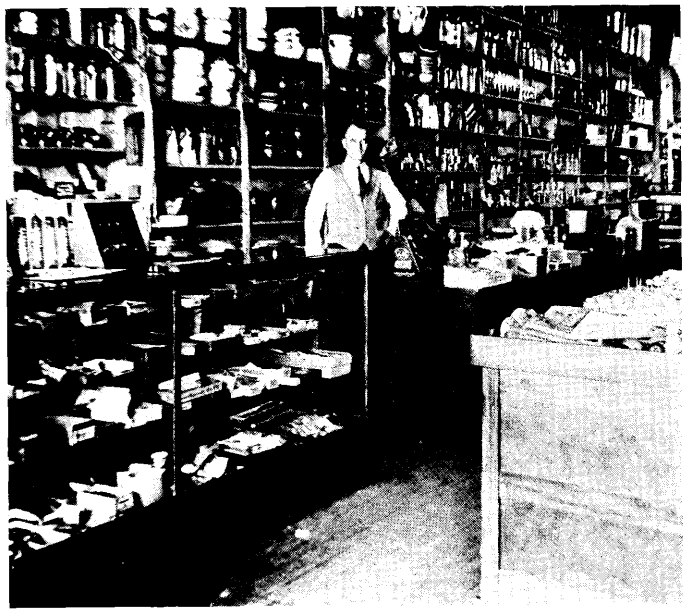
They was right under that darn swamp and that's askin' for it. Some of the guys were suspectin' something when they kept taking mud out of there, and they told the captain something was wrong, but he didn't believe it himself and he got killed too you know.

They had a big prayer meeting at the Armory; the entire Range was in attendance and all the ministers of all faiths were there to conduct a sort of revival, praying for the forty-one who died.

Early Ironton street scene

Ironton — where the mines are

(below) Mayheu Hardware and Furniture Co., Ironton. c. 1915



John J. Hill purchased the original townsite of 80 acres for 800 dollars in 1905 and sold a third interest in the land to a friend, E. A. Lamb. Together they laid out the original townsite.

About a ton of dynamite was used to clear the streets and alleys of stumps left over after a logging operation. Waste material from the Pennington Mine was used for fill in several places around the town.

Platted on October 4, 1910, the town already had several blocks of sidewalks, graded streets and other improvements. The post office was to have two deliveries of mail daily, and Bell Telephone was installing phones. The Rogers-Brown Ore Company (the Kennedy Mine) had its headquarters in Ironton.

During 1911-1912, ore was discovered north of Ironton and running under the town. The fate that Crosby had avoided came to Ironton: a restaurant, the post office, hotel, two malt shops, and some other buildings were moved at the expense of a mining company, the Cuyuna-Duluth Iron Company.

Items from the Ironton News:

11/8/13—Harold Bolder, the popular young bachelor, entertained a number of his friends at his apartment. Cards were played until 10:30, when Chef Teddie Grimsted and his assistant, Wesley Woodrow Wilson, announced that the "eats" were ready. The first course was oyster stew followed by Roquefort cheese, pumpernickel bread, pretzels and some of that "stuff the Germans fight for." T. A. Johnson acted as toastmaster and he brought down the house with a story entitled "Kelly's Dog."

1915—Baths are in season at Nieman's which is open all day every weekday. Baths are twenty-five cents or five for one dollar.

Spina Hotel

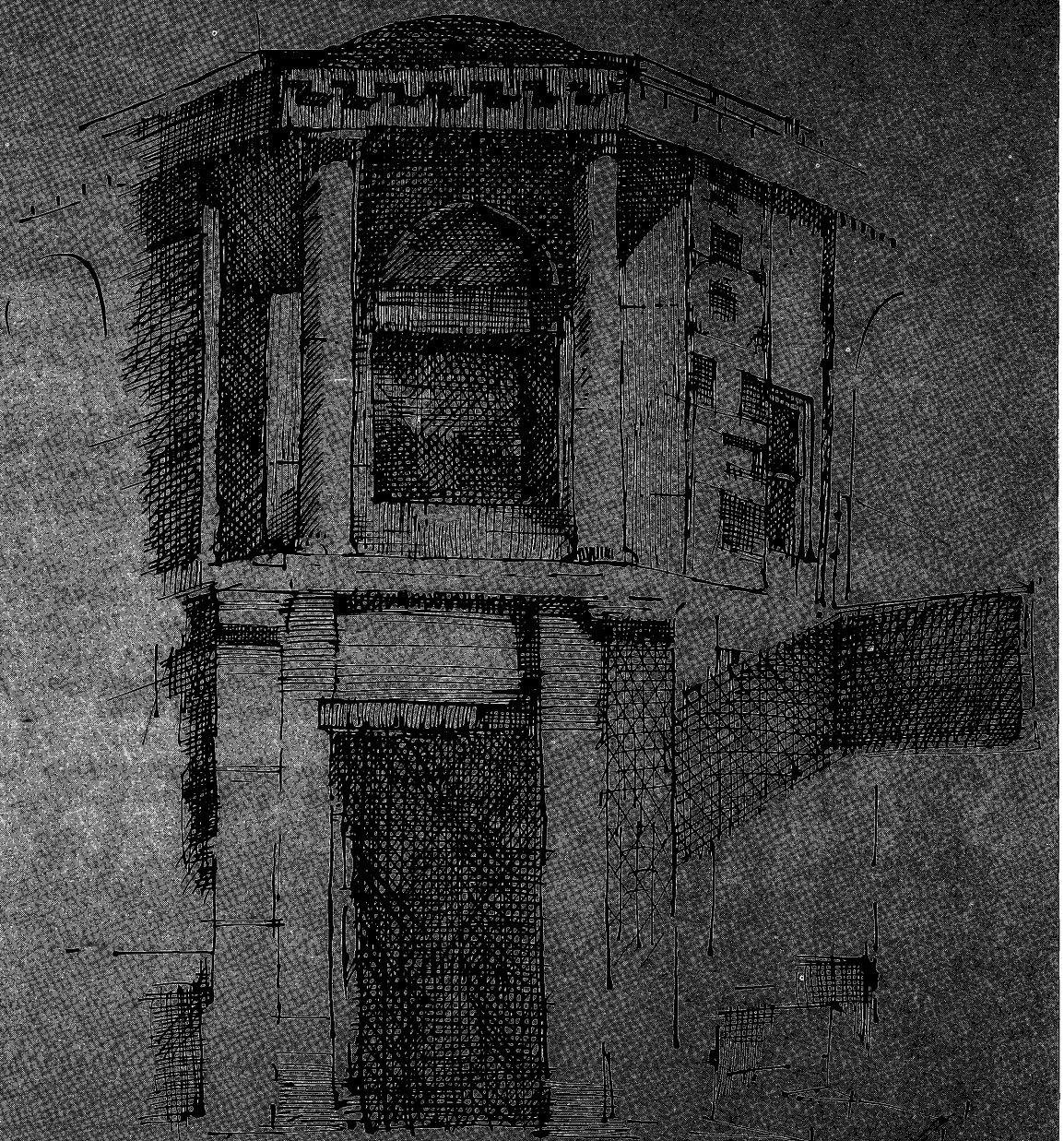
In 1913, the intentions of Peter Spina to build a fifty thousand dollar hotel in Ironton were announced as follows:

Mr. Spina has large real estate interests at Duluth and on the Mesabi Range, and his present undertaking shows that his faith in Ironton's future is of the solid kind.

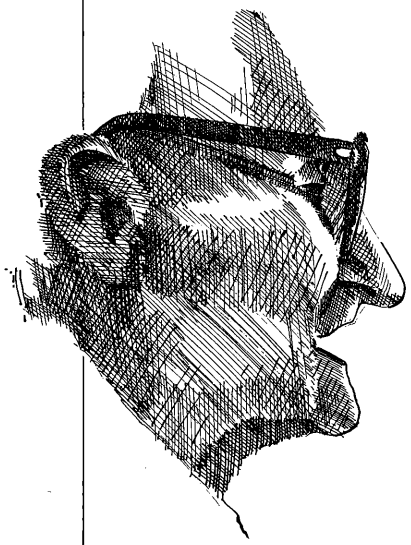
The Spina Hotel opened April 4, 1914. The formal opening was not until June 4th, when 200 people attended a banquet with speeches.

Mr. Waldo of F. A. Patrick and Company of Duluth presided as toastmaster, and in a lengthy speech expressed his pleasure in serving in such a capacity. He complimented Ironton on having such a fine hotel, whose service and cuisine would be especially appreciated by travelling men. There were many whose only home was a hotel and they would appreciate the comfort and conveniences of the Spina Hotel. The best advertising any hotel could receive was by a well pleased lot of drummers and the Spina Hotel was sure to receive that.

Dr. William Reid of Deerwood dwelt on reminiscences and said how years ago he had been lost in a snowstorm very near the spot where the Spina Hotel has been built. Had he seen such a picture as the hotel banquet displayed this evening at that time, he would have thought it a hallucination.



Death of a Location—



I never came into town. Pa went for the groceries; he bought shoes for the kids. I did belong to the Lodge (Slovenian). I pay twenty cents a month, and in case if I die, I get one hundred dollars! But I never have time to go into town those days: I took care of all the kids.

From 1919 to 1950, thirty-four years we were living in Manganese. Very cheap. Company lumber, you know. Very cheap; the next house was so close . . . like that; you couldn't get between! All the houses had boarders and all the mines had three shifts.

After the mines shut down, well, you know: no water! We'd get just a little from the pumps and then no more. Then we used to get water from Trommald. My son used to put three barrels on the truck and go get the water. It was hard.

I don't know. They said it was 'cause of the mines—the mines not working. I don't know. I don't understand. They had a nice pumphouse and everything: big tank—real nice. Then everything went haywire. We moved.

If there would be water, why, we'd be living in Manganese yet. I bet we would. Look at Trommald; they got water. People got toilets in. We could put in toilet upstairs for the children. It'd be nice. But, you know, no water, you can't. My husband put a kind of well down in the cellar. Water then, but after a while, no more. No more. Then we wanted to get away from Manganese.

Pa had a bad heart, couldn't work. They gave him work in Cuyuna but then something happen, he couldn't get nothin.

Little by little the houses were sold. Once, like I said, there were three hundred votes cast in Manganese. Only men come; maybe the women were not citizens or something like that . . . but then the mines shut down. No work. No water. They'd sell the houses and then move them out.

We bought this lot in town; we gave very little for it; the woman was behind in taxes, you know. A guy in Aitkin offered to move the house. He was such a good mover; one quart of milk was on the windowsill, never fell down. And the washing machine in the kitchen, it only rolled a little bit!

But, you know, I wasn't home. I went to Riverton. I felt kind of . . . shivery. I liked Manganese. Thirty-four years I was there. I make my life there. My cousin she say, "Come with me today;" she take me in that day; I felt so bad.

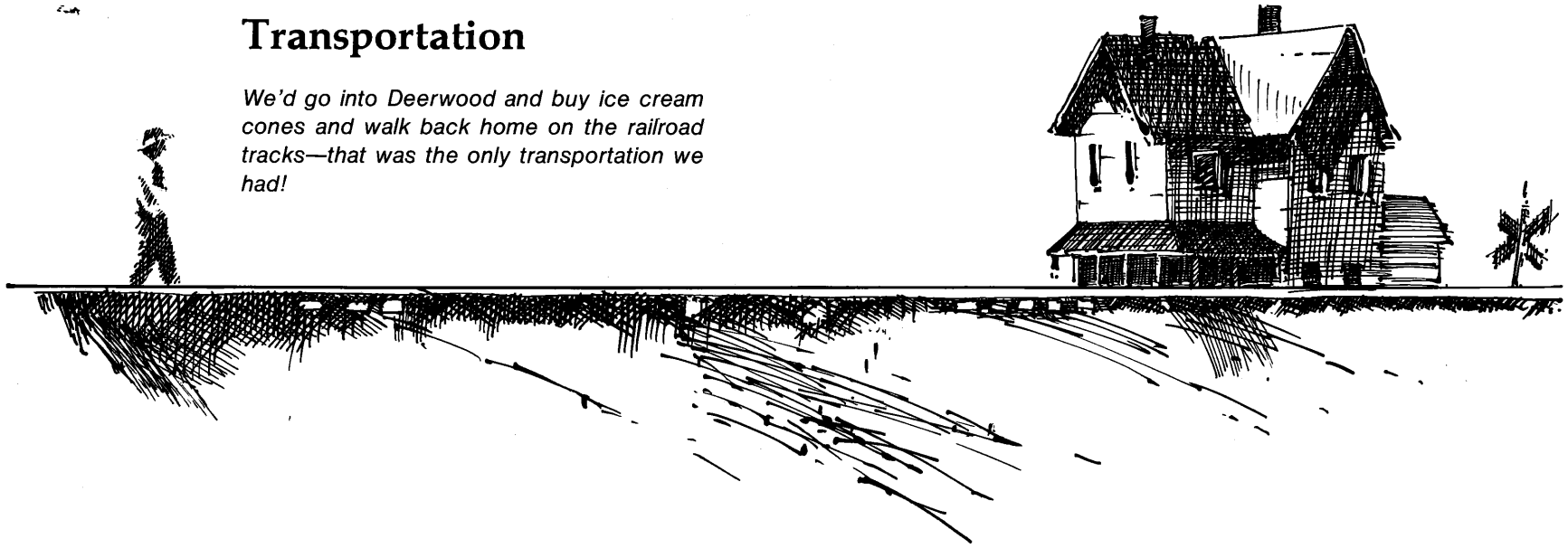
But we didn't feel so bad to see the house moved. The lights, electricity. And water. Everything nice.

Oh, yes, it's different. Ya, ya, . . . it's different here in town, you know. Mm,hmmm, very different.

By 1954, all the houses had been moved out of Manganese Location. But the street lights weren't disconnected until the early 1970s. So while willow brush and aspen suckers pushed their way through the sidewalk cracks and grew along the building foundations, the street lights turned on every evening at dusk, and blinked off again at dawn.

Transportation

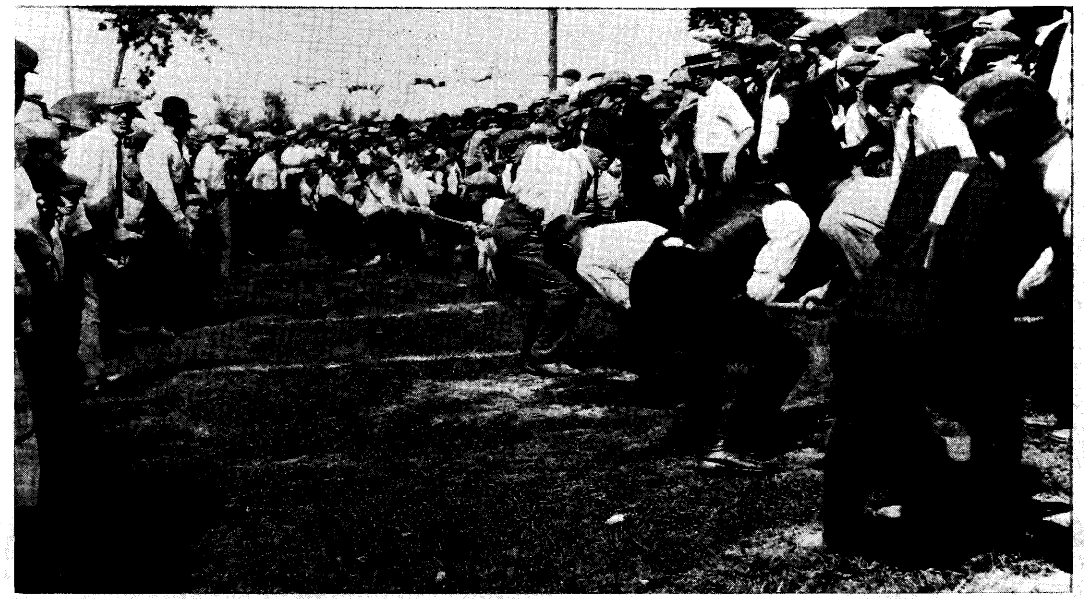
We'd go into Deerwood and buy ice cream cones and walk back home on the railroad tracks—that was the only transportation we had!



Fourth of July Tug-O-War Games

All them mines pulled against each other. The tug-o-war matches started at nine o'clock in the morning and it came eleven o'clock in the morning and the Mahnomen Mine and the Milford were matched to go and they pulled right through the morning hours, noon hour, and when I got back there some time in the afternoon those men had dug holes with their shoes clean up to their chests and still pullin'.

I don't remember who won—about one-thirty, two o'clock in the afternoon before they got done—they were some big strong fellows and in good condition!



The Reunion

He says, "I'm your nephew."

My nephew. I have no such a thing!

He says, "Yes, you do. I was born in the same house as you were!"

What is any other family names? Why he knows them as much as I do! He told me about his brother who died, and I say, my God, it's a small world after all!

Then we visited until late in the night, the wife and his wife visited in the other room. I said, where did you learn English so good? "Uncle Frank, I went to school in Yugoslavia."

They stayed from Sunday supper to Monday at one o'clock, and then they was packing up to go back; their visa from Canada was up in thirty-eight hours.

And it was the first time, besides my brother, the first relation I ever met since I left Yugoslavia in 1909.

Cuyuna Range towns and cities at a glance

Crosby

Crosby at a glance

For general information:
Chamber of Commerce, Crosby, 56441
City Hall — 218/546-5021
Emergency services:
Hospital — Cuyuna Range District Hospital, 546-5147
Clinic — Cuyuna Range Clinic, 546-5158/5147
Ambulance — Crosby, 546-5640
Cross Lake, 692-4777
Remer, 566-2000
Police — 546-5137
Fire — 546-5135
Senior citizens drop in center:
Cuyuna Range Community Center, 2 blocks north of Hwy. 210 on Hwy. 6 north.
Sports facilities open to the public:
* Serpent Lake Campground — camping, picnicing, fishing, boat access, electric hook-up
* Tennis — 2 courts at Serpent Lake Campground
* Several outdoor ice skating/hockey rinks

Visitor attractions:
* Scorpion Snowmobile and Moped Plant Tours — for information and schedule call 546-5123
* Croft Mine Site
* Portsmouth Mine Pit and Overlook
* Crosby-Cuyuna Range Museum
* Crosby miners' cottages
* Heineman Rearing Pond

Special events:
* January — Winter Ice Fishing Contest
* June — Masonic Lodge Pancake Breakfast

Cuyuna

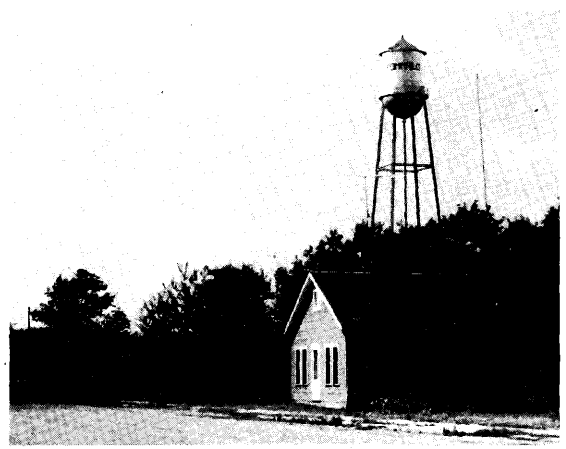
It was around the Kennedy Mine, the first successful iron ore property, that the first Cuyuna Range village grew up, and what other name to select than the title of the new iron range, itself, Cuyuna!

Cuyuna was officially platted in 1908.

Even before the village was officially platted, a waterworks and sewer and well were installed and dirt streets laid out to plan. Shortly after the plat was filed, the brick bank building (still standing and now used as the fire hall) was constructed, along with a school.

Cuyuna, which in recent years is primarily a residential area, at one time flourished with its own hospital, two theaters, three grocery stores, a butchershop, two barbershops, a steam bath and sauna and two boarding houses.

(from **Cuy-una! a Chronicle of the Cuyuna Range**)



Deerwood

In 1871, William Ingerson and a crew surveyed the Township of Deerwood. When the Northern Pacific Railroad built a depot there in 1872 they gae it the name of Withington. Later, owing to confusion with Worthington in Nobles County, it was renamed Deerwood for the plentiful deer in the woods.

By the time Deerwood was ready to draw up official articles of incorporation in 1884, nearly all the land in the vicinity had been homesteaded.

Education of the children was a prime concern in the new settlement, and in 1883, an early resident provided space in his carpentry shop for a class of six students.

An early settler later reminisced;

When I first came to this section of Crow Wing County there were very few settlers, quite a lot of Indians and the only roads were just trails cut through the timber. There was very little farming and practically no tame hay. All the hay had to be cut with a scythe and carried to the stacks with hay poles. Sometimes we cut hay in water up to our knees and had to carry it to the high spots to dry.

Deerwood, situated 17 miles east of Brainerd, enjoys a wide reputation as a summer resort and people from Minnesota and many other states spend their summers there.

(from **Cuy-una! a Chronicle of the Cuyuna Range**)

Towns and cities continued

Ironton

Ironton at a glance

For general information:
City Hall, 56455 - 218/546-5625
Emergency services:
Hospital — Cuyuna Range District Hospital, 546-5147
Ambulance — 546-5640
Police — 546-5137
Fire — 546-5135
Sports facilities open to the public:
* Tennis — 2 courts behind Ironton Grade School
* Ice Skating/Hockey — 1 outdoor at 5th Avenue
Visitor attractions:
* Spina Hotel on Ironton's Main Street
* Portsmouth Sintering Plant Site

Riverton

Ironton News—*7/11/14—William E. Barber has completed the organization of a lodge of the Modern Brotherhood of America at Riverton. There are 40 members in the lodge. The population of Riverton at this time is 108.*

The company houses could be rented for 20 dollars per month in 1918. Only a few are left now. Most were sold for $150-$200 and moved to other towns after the mine closed; several burned down. They had had electricity and running water, the water tank being central to Riverton.

The Rowe Mine, employing about 200 miners, and the first open-pit mine on the Cuyuna Range, closed in 1921. Its close signaled the end of the business section of Riverton. Though the Sagamore Mine remained to the south of Riverton, most of the miners there lived in other towns and thus it did little to keep business active in Riverton.

The bank building at Riverton was moved to Brainerd and converted into a bar.

Some residents of Riverton have lived there for over sixty years. They stayed because all through the years Riverton was a quiet, slow-paced community where you could walk to Little Rabbit Lake to fish and talk to your neighbors along the way. And after the end of mining at the Rowe, its pit like many others became a swimming hole for local children. It was surprising how fast sixty years could pass by in one place!

Trommald

Platted as Iron Mountain, June 3, 1913, and renamed Trommald in 1918, the village was served by both the Northern Pacific and the Soo Line. Surrounding mines included the Merritt One, Two, Three and Four, the Clark, the Bessemer and the Adler, which also has a concentrating and washing plant. Village streets were graded and there were cement sidewalks, a water system, and sewer system. The water tank with "Trommald" painted on the side is still at the north edge of town. There was a bank, school, hotel, and a newspaper; many of the foundations and basements remain. The post office was in the large house at the corner as you turn into Trommald. The Silver Dollar Hotel burned down; there is a small country bar in its place.

"A good place to raise children:" neighbors cooperated to put up ice together in the winter. The ice was stored in half-log houses erected for that purpose, with a surplus of sawdust available for storage. Usually each home had its own garden along with pigs, chickens and a cow; there was a large grazing pasture used by everyone. Boys had the advantage of hunting and fishing just by walking out of town.

Square dancing was a popular community activity and continued even into the Depression after the mines closed.

The mine dumps that surrounded Trommald to the south were of a later period and take away something of the beauty that once belonged to the village.

Iron Range Country Recreation

Welcome to the recreational diversity of Minnesota's Iron Range Country. This northland of lakes, rivers and forests provides unexcelled opportunities for outdoor recreation, education, and family fun.

Not far from the populated centers of iron mining the call of the loon echoes from rocky shores, the sunset silhouettes a solitary pine, a moose submerges its massive head to feed on water lily roots, and a beaver forges a rippling wedge across a glassy pond. A fish splashes, a wolf howls and a red-shouldered hawk soars over the forest. A squirrel, chattering noisily, streaks across a branch and plunges into the protection of a hollow tree.

Here and there in the forest, the shade is relieved by splashes of sunlight and carpets of bunchberry.

Two canoeists, camped on a quiet lake, pause from their evening coffee to listen to the quiet music of fish feeding in the shallows.

This is northern Minnesota's Iron Range Country.

Today's families are taking vacations at all times of the year. More are camping, skiing, hiking, hunting, fishing, and snowmobiling than ever before. The problem, however, has been to find a region which offers the opportunities our mobile society demands.

As we travel over a wider and wider area in search of solitude and special places, northern Minnesota's Iron Range Country becomes an increasingly inviting region to explore and rediscover, just as early Indians, voyageurs, prospectors, miners and thousands of immigrants have done for centuries before us.

Minnesota's Iron Range Country affords an ideal setting for recreation and sports of almost every description. Its temperate climate and varied topography have helped to make it one of the major recreation areas of the nation. Each season brings widely differing games and sports activities.

Inland lakes and streams offer opportunities for brook trout, walleye, bass and northern pike fishing; swimming; sailing; boating and canoeing. Other summer activities include golf, tennis, bocce ball, cycling, hiking and camping.

In the autumn, hiking, driving along colorful trails, and hunting are exceptional in the region.

Iron Range Country winters, cold and snowy, offer an unexcelled environment for such sports as cross country and downhill skiing, snowshoeing, snowmobiling, ice fishing, hockey and curling.

The region is rich in public forests open to varied types of outdoor recreation. Within the area defined in this guide there are two national forests and many state forests. Several areas of special significance are highlighted below.

The Boundary Waters Canoe Area

Located north of the iron ranges, the BWCA is the largest National Wilderness Area east of the Rocky Mountains—slightly over one million acres in size. As a vast region of interconnecting waterways amidst virgin coniferous forests, it is our only lakeland wilderness, unique in the National Wilderness System. Containing 1,076 lakes and 1,200 miles of canoe routes, it stretches for more than 100 miles along the Minnesota-Ontario border, supporting unique northern fish and wildlife populations.

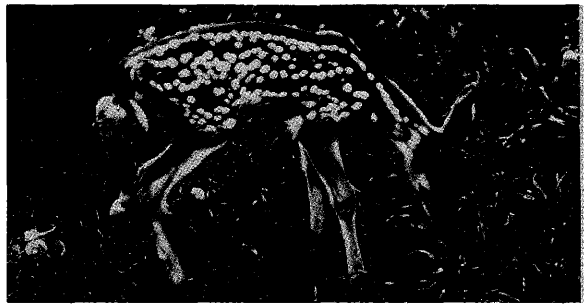
The BWCA offers special opportunities for recreation,

research, education and inspiration. A land of awesome beauty—rugged three-century-old pines, jutting glacially formed cliffs, and a thousand island-studded lakes—canoeist, hiker, snowshoer, skier, and fisherman can leave the cares of urban life behind and experience nature on its own terms here.

In this last large and relatively complete example of the northern conifer ecosystem in the United States, Canada lynx, pine marten, fisher, moose, black bear, beaver, otter, bald eagle, and other forest animals are present in full complement to the native vegetation.

For visitors wishing to experience the Boundary Waters Canoe Area, there are several regulations which must be followed:

1. All persons or parties travelling in the BWCA must have in their possession a travel permit. There is a reservation system for these permits, but they are free.
2. Outboard motors and snowmobiles are permitted only on routes designated for such use. The majority of the BWCA is open to non-motorized use only.
3. Nonburnable, disposable food and beverage containers are not permitted. Containers of fuel, insect repellent, medicines, personal toilet articles and other items which aren't foods or beverages are permitted. All empty containers and other refuse must be burned or packed out.



More information concerning the Boundary Waters Canoe Area may be obtained by writing:

Forest Supervisor
Superior National Forest
P.O. Box 338
Duluth, Minnesota 55801

The Superior National Forest

Embracing much of northeastern Minnesota, the Superior National Forest stretches across three million acres of lakes and streams, deep evergreen forests and stark outcroppings of weathered granite. The Superior National Forest sits astride the southern extension of the Laurentian Shield, a 2½-billion-year-old granite intrusion that covers an area in excess of two million square miles. These outcroppings are among the oldest rocks on the North American continent and are laced with sediment and lava flows which predate any record of living organisms.

Management of the Superior is based on multiple use principles. Consequently, visitors may see active timber harvesting and management, mining areas and some gravel pits. There are many campsites available within the forest—some of which will be listed in the separate recreation sections—and maps of the forest may be obtained by writing:

Forest Supervisor
Superior National Forest
P.O. Box 338
Duluth, Minnesota 55801

The Chippewa National Forest

The Chippewa National Forest, 640,000 acres in size, is named for the Ojibwa or Chippewa Indian people, who lived in loosely federated villages across the north-central Midwest. They lived off the land, harvesting planted crops, hunting and gathering wild rice.

In 1832, Henry Rowe Schoolcraft discovered the source of the Mississippi River which enters the forest on its western boundary at Andrusia Lake.

The period which followed this discovery brought many changes to the land of the Chippewa as a population of fur traders, lumbermen and settlers moved into the region. Since then the forest has undergone many changes.

The area encompasses 499 major lakes which offer excellent fishing and boating opportunities.

It is home to white-tailed deer, bear and moose as well as the smaller species of timber wolf, bobcat, mink, otter, golden gopher, mice and moles.

It is a major nesting area of the bald eagle, our national symbol.

On its sandy soils grow white, Norway and jack pines. Heavier soils support balsam fir, white spruce, aspen, yellow birch, elm, basswood, and oak, swamplands cedar and tamarack.

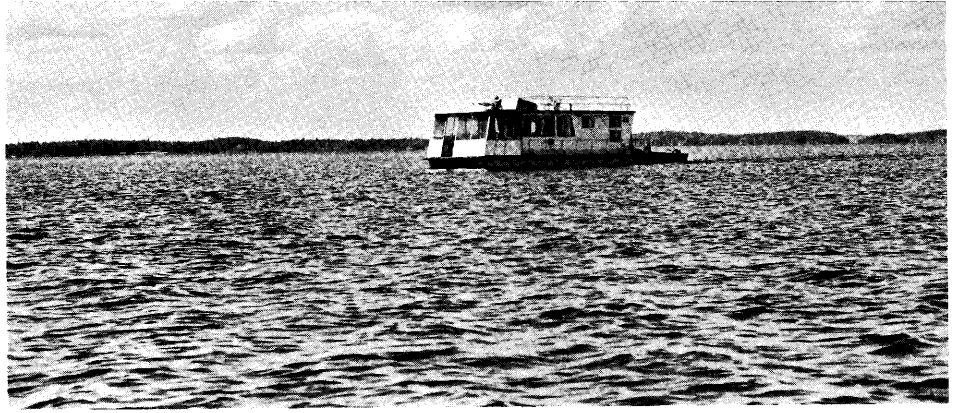
The U.S. Forest Service is responsible for the management and development of the forest. Public lands of the Chippewa are open to sportsmen, but state hunting and fishing licenses are required.

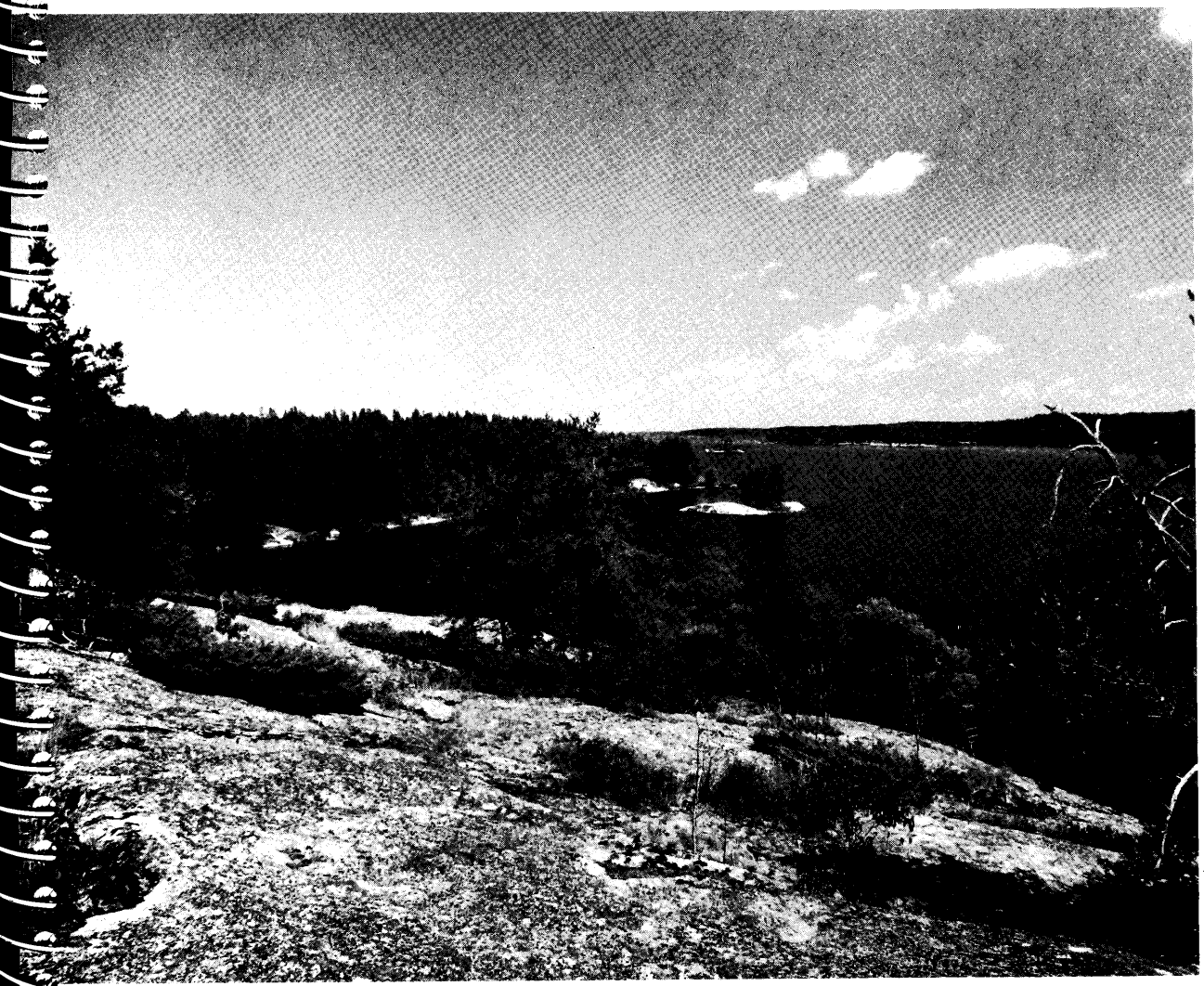
For more information contact:
Forest Supervisor
Chippewa National Forest
Cass Lake, Minnesota 56633

Lake Vermilion

Located north of Tower, Minnesota, on the Vermilion Range, this lake's 1,200 miles of shoreline are as varied as Minnesota's weather. Rocky cliffs or sandy beaches and quiet, still bays all offer something for everyone. With 365 islands that cut open water into waterways, Lake Vermilion provides some of the best fishing in Minnesota for walleye, smallmouth bass, northern pike and pan fish.

Canoeists since early Indian and voyageur days have paddled this lake, rich in the history of fur trading, gold rushes, the logging era and even steamboat navigation.





Voyageurs National Park

International Falls, Minnesota

The forested lake country along Minnesota's northern border was once the scene of an epic chapter in North American history. For a century and a half, with the assistance of the Indians, French-Canadian voyageurs plied this maze of lakes and streams in frail bark canoes. They transported vast quantities of furs and goods between Montreal and the far Northwest.

The voyageur may be gone, but the land and waters he traveled are still with us, altered in a few places along the international boundary, but essentially the same as before.

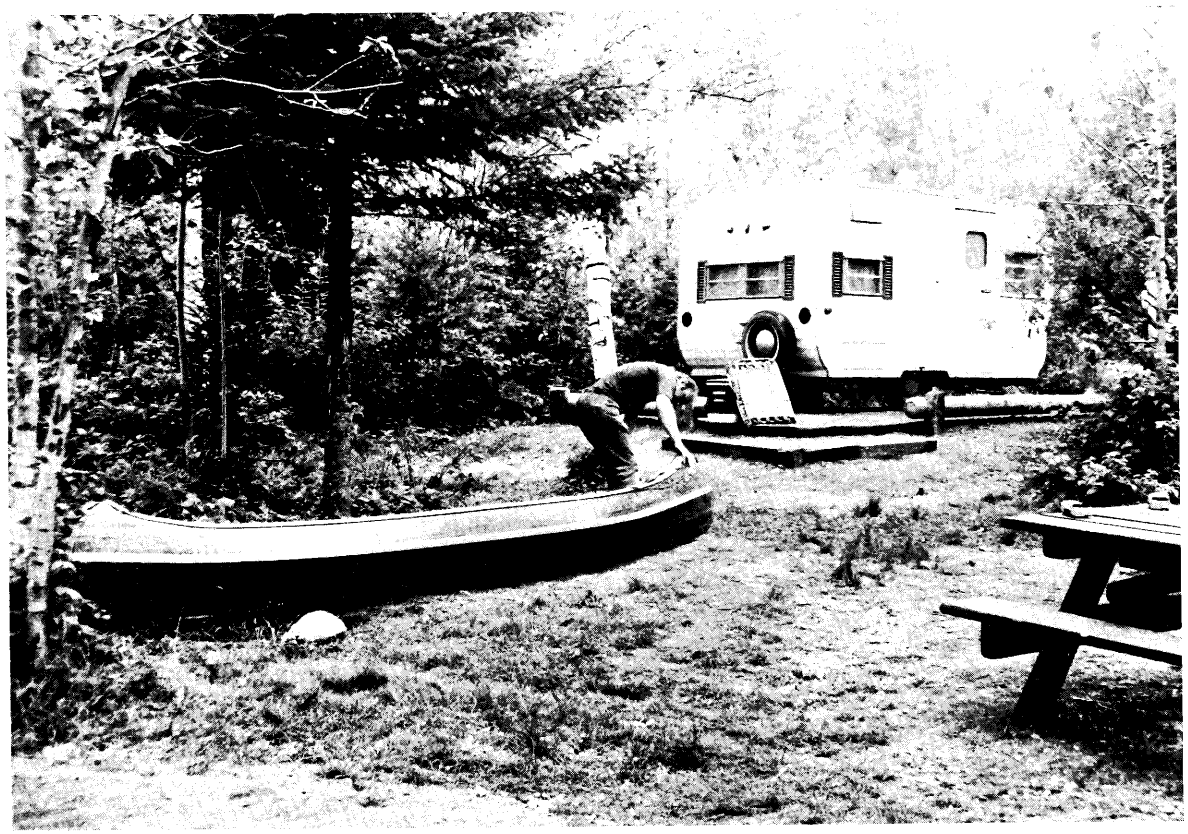
This stretch of lake country has all the wildness and immense scale associated with the northern shield region: a land surface shaped by glaciation into an endless system of internal waterways, with a sense of vastness, reinforced by a continuous forest mantle. On the peninsula, stands of fir, spruce, pine, cedar, aspen and birch reach down to the water's edge, broken here and there by bogs, sand beaches and cliffs. The waters surrounding the peninsula range from narrows of less than 100 feet in width to lakes several miles across, irregular in shape, dotted with islands, and accented with rocky points and promontories. Four lakes

dominate the park: Namakan, Kabetogama, Rainy and Sand Point.

Voyageurs National Park encompasses 219,128 acres, of which 80,300 are water. The main body of the park is the Kabetogama Peninsula. Some 75,000 acres in extent, it is heavily forested, relatively undeveloped, and accessible principally by water. The interior holds a number of lakes that can only be reached by foot or floatplane.

In a setting reminiscent of the world the voyageur knew, the park offers visitors a kind of experience found nowhere else in the National Park System. Ancient rock exposures, vivid reminders of the glacial age, superlative lake country scenery, wildlife, associations with the fur trade and logging eras, and a historic waterway system composed of interconnected lakes - these are attributes that in combination make the area unique and worthy of a side trip from Iron Range Country.

For more information write:
Park Superintendent
Voyageurs National Park
International Falls, Minnesota 56649



Camping and Picnicing in Iron Range Country

Camping in Minnesota's State Forests

A number of primitive campgrounds are maintained by the Minnesota Division of Forestry. Designed to furnish only the basic needs of individuals, these campgrounds are kept as small as possible and are primarily for the tent camper. Camping trailers not exceeding eighteen feet in length are permitted, but occupants must use the toilet facilities provided. Many of the sites will not accommodate camping trailers.

Each campsite consists of a cleared tentsite, a fireplace, and a table. In addition, outdoor toilets, garbage cans and well water are provided. You must pump your own water. Electricity is not provided, so bring your own lighting equipment. Boat landings and swimming beaches are provided where possible but no lifeguards are in attendance. Within the tentsite area, undergrowth is left as a screen between sites.

You will note that a charge for each tentsite is made at some of the campgrounds. There are usually no campground attendants, so you are on your honor to place the required money in the metal cash boxes provided. Instructions will be found for depositing your money at each of the campgrounds where a charge is made.

Camping in Minnesota's State Parks

An annual windshield motor vehicle permit entitles you to use all state parks for the year of issue. Daily permits are available for tourists passing through.

State parks are closed from 10:00 P.M. until 8:00 A.M. of the following day except for campgrounds or in cabin areas. Loud noises or other disturbances are prohibited after 10:00 P.M.

Firewood may not be gathered in the park, but is usually available at the park office for a nominal fee.

A Modern Campground is one with a pressure water system and a sanitation building.
A Primitive Campground is one with a hand pump and pit type toilets.
A Pioneer Group Camp is an area which will accommodate Boy Scouts, Girl Scouts, etc. This area may or may not have water. Use should be scheduled through the Park Manager.

Camping in Minnesota's National Forests

Please observe the common sense regulations posted on bulletin boards at the Superior and Chippewa recreational areas. Sites, which cannot be reserved, are open from June 1 to October 1, and are limited to 14 days' stay, operated on a first-come, first-served basis.

Camp units are limited to one family only. Each unit has a parking spur to accommodate cars with trailers up to 22 feet long, a fireplace, a table, and tent pad. Water, fuel wood, and comfort stations are available at all developed campgrounds and at most picnic grounds. Sewer and electrical hook-ups are not provided.

There are no lifeguards here; please supervise children at all swimming points.

Firearms cannot be used in developed recreation sites.

All campgrounds in the Superior and Chippewa National Forests require a daily camping fee. For those campgrounds that have flush toilets there is a daily fee of $3.00. The other sites have a $2.00 per day fee. For holders of the Golden Age Passport, the fees are $1.50 and $1.00, respectively.

Iron Range Country Camping and Picnicing

Campsite Name	Nearest City/ Town	Camp Units	Picnic Sites	Boat Launching Site	Swimming	Fishing	Drinking Water	Showers	Electric	Interpretive Trail	Fee	Other
Superior National Forest Campgrounds												
Birch Lake	Ely	43	20	yes	no	yes	yes	yes	no	no	yes	
South Kawishiwi River	Ely	32	5	yes	yes	yes	yes	yes	no	yes	yes	
Pfeiffer Lake	Tower	21	6	yes	yes	yes	yes	yes	no	no	yes	
Fall Lake	Ely	69	20	yes	yes	yes	yes	yes	no	no	yes	
Fenske Lake	Ely	16	4	yes	yes	yes	yes	yes	no	no	yes	
Chippewa National Forest												
Caribou Lake	Grand Rapids	3	no	yes	yes	yes	yes	no	no	no	yes	trailer dump
North Star Lake	Grand Rapids	30	yes	yes	yes	yes	yes	no	no	no	yes	
Clubhouse Lake	Grand Rapids	51	yes	yes	yes	yes	yes	no	no	no	yes	
Minnesota State Parks and Forests												
Bear Head Lake State Park	Tower	65	yes	yes	yes	yes	yes	no	yes	yes	yes	
McCarthy Beach State Park	Hibbing	84	yes	yes	yes	yes	yes	yes	yes	yes	yes	
Scenic State Park	Nashwauk	74	yes	yes	yes	yes	yes	yes	yes	yes	yes	
Schoolcraft State Park	Cohasset	38	yes	yes	no	yes	yes	no	no	no	yes	
Bear Lake Campground	Nashwauk	28	yes	yes	yes	yes	yes	no	no	no	yes	
Beatrice Lake Campground	Hibbing	25	yes	yes	yes	yes	yes	no	no	no	yes	
Moose Lake Campground	Grand Rapids	10	yes	yes	yes	yes	yes	no	no	no	yes	
Cottonwood Lake Campground	Grand Rapids	15	yes	yes	yes	yes	yes	no	no	no	yes	
Caribou Lake Campground	Grand Rapids	3	no	yes	yes	yes	yes	no	no	no	yes	
North Star Campground	Grand Rapids	30	yes	yes	yes	yes	yes	no	no	no	yes	
Clubhouse Lake Campground	Grand Rapids	51	yes	yes	yes	yes	yes	no	no	no	yes	
Greer Lake Campground	Crosby	26	yes	yes	yes	yes	yes	no	no	no	yes	
Lougee Lake Campground	Crosby	34	yes	yes	yes	yes	yes	no	no	no	yes	
Washburn Lake Campground	Outing	22	15	yes	yes	yes	yes	no	no	no	yes	
Municipal Campgrounds												
Hoodoo Point	Tower	54	yes	yes	yes	yes	yes	yes	yes	yes	yes	store/trailer dump
McKinley Park	Tower	25	yes	yes	yes	yes	yes	no	no	yes	yes	change houses
Fisherman's Point	Hoyt Lakes	42	yes	yes	yes	yes	yes	no	no	no	yes	bike trail
Laurentian Divide Wayside Rest	Virginia	no	yes	no	no	no	yes	no	no	yes	no	
Carey Lake Recreation Area	Hibbing	no	yes	canoe	yes	yes	yes	no	no	yes	no	
Embarrass Lake	Biwabik	no	yes	yes	yes	yes	yes	no	no	no	no	
Crosby Memorial Park	Crosby	30	yes	yes	yes	yes	yes	yes	yes	no	yes	change houses
Buhl picnic area	Buhl	no	yes	no	no	no	yes	no	no	no	no	
Picnic Sites Only												
Gunn Park	Grand Rapids	no	yes	no	no	no	no	no	no	no	no	
Itasca County Fairgrounds	Grand Rapids	no	yes	no	no	no	no	no	no	no	no	

Cross Country Skiing and Hiking in Iron Range Country

Cross country skiers and hikers keep growing in numbers year after year. Northeastern Minnesota and the area immediately encompassing its iron ranges offer a wide variety of trails and terrains to satisfy even the most jaded taste for an out-of-doors adventure.

Many downhill ski areas and an increasing number of resorts provide trails for the ski tourer. Complementing these trails are more than 100 miles of Grant-In-Aids trails in northeastern Minnesota.

Prominent trails, addresses, phone numbers and available facilities are listed below. If a trail map is available, where to get one is also noted.

(by alphabetical order of closest town or city to access point)

1. Brainerd-Crosby-Aitken Area

A. **Brown Lake:** 12 miles N. of Aitkin on Cty. Rd. 24; 6 miles marked and groomed, intermediate trails; trail map at courthouse in Aitkin.

B. **No Achen Ski Train:** Rippleside Elementary School, Aitkin; 10 miles marked and groomed beginner to advanced trail, instruction at city park.

C. **Crow Wing State Park:** Rt. 3, Box 342, Brainerd 56401; (218) 829-8022; 3.6 miles marked and groomed, beginner to advanced trail; trail map; state park vehicle permit required; toilets and shelters.

D. **Land O'Lakes State Forest:** Washburn Lake Solitude Area, 2 miles N. of Outing on MN 6, then 1.5 miles W. on Hwy. 48; (218) 828-2565; 11.2 miles of marked and groomed intermediate to advanced trail; parking area, toilets, shelters.

2. Ely Area

A. **Hidden Valley:** Box 267, Ely 55731; (218) 365-3231, 3097; 10 miles marked and groomed intermediate to advanced trails, trail map, sleeping bag accommodations for groups.

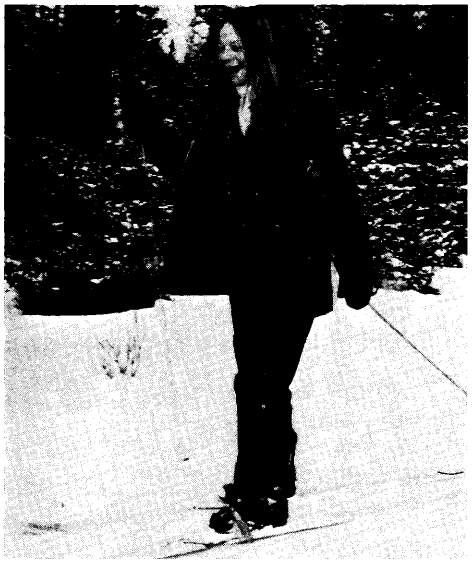
B. **Superior National Forest:** There are many trails located north and east of Ely, Minnesota, within the Superior National Forest. Any partially within the Boundary Waters Canoe Area require a free wilderness permit available from the Voyageur Visitors Center and the U.S. Forest Service office in Ely. Additional details on the trails listed below are available at that office.

Following is only a partial listing of trails closest to Ely.

a. **The Little Vermilion Trail:** Begins on Forest Road 424 and extends three miles to Little Vermilion Lake. Trail is generally wet and brushy in spots. Trail is marked by blazing. There is a very scenic spot where the trail crosses the Echo River and picnic places and firegrates are provided here. Trail can be used in the winter for snowshoeing and cross country skiing. Most of this trail is within the BWCA.

b. **The Norway Trail:** Extends eight miles south of Forest Road 116 to Trout Lake. This trail is easy to follow and the terrain is gently rolling. The last half-mile of the trail is within the BWCA. The trail is usable in the winter for snowshoeing and cross country skiing. That portion outside the BWCA is also available for snowmobiling.

c. **Sioux-Hustler Trail:** This is a 27 mile loop trail starting from Forest Road 116 (Echo Trail). While this trail is hikeable, it is NOT recommended for amateurs. The hiker will encounter brushy spots and windfalls at many locations. Some parts of the trail are difficult to follow and all streams must be waded. Terrain varies from flat to gently rolling. Wilderness campsites are provided on Emerald Lake, Devil's Cascade and Pageant Lake. The majority of the trail is located within the BWCA and



can be used in the winter by snowshoers and cross country skiers.

d. **Big Moose Trail:** This trail extends three miles southward from Forest Road 464 to Big Moose Lake. The trail is outside the BWCA and is well marked. Brush and blowdown will be encountered. Trail can be used by snowmobiliers, cross country skiers and snowshoers in the winter.

e. **Snowbank Lake Trail:** Begins on the Kekekabic Trail, 5½ miles east of the Fernberg Road. It is a 17½-mile trail around Snowbank Lake, ending at the Kekekabic Trail parking lot. The north side of Snowbank Lake features high rock ridges with excellent overlooks. Developed campsites are provided. Connecting loop trails are also available for groups desiring longer trips. Special BWCA permits are required and only issued at the Voyageur Visitors Center or at the Ely Ranger Station in the summer.

3. Grand Rapids Area

A. **Amen Lake Trails:** N. of Grand Rapids 12 miles on Hwy. 38, W. on Cty. Rd. 19, N. on Cty. Rd. 246; 4 miles intermediate to advanced trails, trail map at Grand Rapids Courthouse.

B. **Wabana Trails:** Wildlife sanctuary, 16 miles N. of Grand Rapids on Hwy. 38 and Cty. Hwys. 49 and 59; 5.5 miles of intermediate trails; trail map at County Land Dept. in Grand Rapids Courthouse, (218) 326-2019.

C. **Quadna Mt.:** Hill City 55748; 1—(800) 662-5796; 7 miles marked and groomed, intermediate trails; trail map, downhill ski area.

D. **Sugar Hills:** Box 369, Grand Rapids 55744, (218) 326-3473; 15 miles marked and groomed, beginner to advanced trail; trail map, downhill skiing.

E. **Scenic State Park:** 5 miles E. of Bigfork on Cty. Rd. 7; (218) 743-3362; 8 miles marked and groomed trails.

F. **Simpson Creek Trails:** District Ranger, Box 308, Deer River 56636; (218) 246-2123; 16 miles N. of Deer River on Hwy. 46; 12.5 miles marked, beginner to intermediate trails; trail map.

G. **Suomi Hills Recreation Area:** District Ranger, U.S. Forest Service, Marcell 56657, (218) 832-3161; N. of Grand Rapids off Hwy. 38; 20 km marked intermediate to advanced trails, trail map, camping, toilets.

H. **Thistledew:** George Washington State Forest, DNR Forestry, Deer River, 56636; (218) 246-8343; 35 miles N. of Nashwauk on Hwy. 65; 12 miles marked intermediate to advanced trails, trail map, camping, toilets.

4. Hibbing Area

A. **McCarthy Beach State Park:** Star Route, Hibbing, 55746; (218) 254-2411; 8 miles marked and groomed, intermediate trails; trail map; state park vehicle permit required; camping, parking, shelters, toilets.

B. **Carey Lake Recreation Area:** 5 miles E. of Hibbing on Cty. Rd. 25, beginner to intermediate trails.

5. Tower-Soudan Area

A. **Bear Head Island State Park:** 9 miles E. of Tower on Hwy. 169, 7 miles So. on Cty. Rd.; (218) 365-4253; 15 miles marked and groomed trails; parking, shelters, camping, state park vehicle permit required.

6. Virginia Area

A. **Olcott Park:** within city limits of Virginia; 1 mile marked and groomed; beginner trail; trail map.

B. **Lookout Mountain Ski Trail:** 3 miles N. of Virginia; 9 miles marked and groomed, intermediate to advanced, trail map, toilets (218) 741-2717.

Downhill skiing in Iron Range Country

Ski area	Nearest city of town	No. of runs	Longest run	Vertical drop	Tows: rope	T-bars	Poma lift	Chair lifts
Hidden Valley	Ely	4	1800 ft.	165 ft.	2	1		
Giant's Ridge	Biwabik	7	3700 ft.	440 ft.	3	1	1	
Lutsen	Lutsen	14	7000 ft.	630 ft.	2	1	1	3
Mt. Itaska	Coleraine	6	1800 ft.	275 ft.	1			
Quadna Mountain	Hill City	14	3800 ft.	325 ft.	2	3		
Spirit Mountain	Duluth	14	3800 ft.	610 ft.				5
Sugar Hills	Grand Rapids	23	3000 ft.	400 ft.	4	3		2

Snowmobiling in Iron Range Country

Snowmobiling has grown tremendously in Minnesota in the past ten years. A small number of individuals, however, have given the sport a "black eye." Here are a few of the often-ignored "don'ts":

1. Don't operate your snowmobile on private property without permission.
2. Don't litter public or private land or water.
3. Don't harrass ice fishermen, snowshoers, ski tourers or other winter sports people.
4. Don't run a snowmobile late at night in a residential area.
5. Don't cut wire fences or destroy other personal property.
6. Don't operate on a public road or in restricted public areas.
7. Don't mix alcohol and snowmobiling.
8. Don't operate snowmobiles on railroad or power line right-of-ways.

Snowmobiles may be operated on any public lands or waters under the jurisdiction of the Commissioner of Natural Resources EXCEPT for the following:

1. In any State Park (other than on designated trails and areas).
2. In any state wildlife management area without the written permission of the manager in charge.
3. In any area in which such operation is prohibited by law, regulation, order or directive, or in any area recognizably posted against such operation.

Maps for state trails are available from any of the DNR offices in the Iron Range Country region. Contacts for Grants-In-Aids trail maps are also listed in this publication. These maps often include information about lodging and food facilities in the trail area.

The Taconite Trail

The Taconite has two segments totaling 72 miles for snowmobiling. The first segment begins 10 miles north of Keewatin and extends 60 miles to Highway 53. The second segment begins approximately five miles southwest of Tower Soudan State Park and goes 12 miles to the Bear Island State Forest/Superior National Forest boundary.

The Taconite Trail is near McCarthy Beach State Park, George Washington State Forest, Superior National Forest, Tower-Soudan State Park, Bear Island State Forest and Bear Head State Park.

Grants-in-Aid trail systems provide additional mileage and access to the Taconite Trail. The Laurentian Trail connects the first segment near Highway 53 and the second is connected by the Taconite Spur Trail north of Bear Island Lake.

Local Trails — by alphabetical order of closest city or town to access point.

1. Aitkin

A. **Aitkin County Parks,** Court House, Aitkin 56431 (218) 927-2102, Ext. 3; 95 miles marked and groomed, connects with Haypoint, Tamarack, Crosby, Mille Lacs trails; trail map available.

2. Big Fork

A. **Scenic State Park:** 5 miles E. of Big Fork on Cty. Rd. 7, (218) 743-3362; 8 miles marked and groomed.

B. **Big Fork State Forest** (North Itaska Trail): 4 miles W. of Big Fork on Cty. Rd. 14, (218) 246-8343; 39 miles marked and groomed.

3. Grand Rapids

A. **Suomi Hills Snowmobile Trail:**

10 miles N. of Grand Rapids on Hwy. 38, 38er's Snowmobile Club, Box 386, Grand Rapids 55744, (218) 326-9465; 25 miles marked and groomed; trail map; food and toilets in area, connects to Marcell G-I-A Trail.

B. **Driftskippers Trail:** Blandin Paper Co., Director of Public Affairs, 115 S.W. 1st St., Grand Rapids 55744; 75 miles marked and groomed; connects with Cass County, Remer and Aitkin County trails. Trail map from above address.

4. Hibbing

A. **McCarthy Beach State Park:** From Hibbing, 20 miles N. on Cty Rd. 5, (218) 254-2411; 13 miles marked and groomed.

B. **Tim Corey Trail** (George Washington State Forest): From Hibbing 20 miles N. on Hwy. 5; 34 miles marked and groomed.

5. Hill City

A. **Haypoint Trails:** Haypoint Jack Pine Savages Inc., Gus Schroeder, Hill City 55748; (218) 697-2615; 34 miles marked and groomed, connects with Washburn Lake in Hill River State Forest, County Park trails to Aitkin, Moose-Willow trails to Palisade, Smoky Hollow State Forest and trail to Remer and Outing, trail map, lodging and food in area.

B. **Hill River State Forest,** Washburn Lake Trail, (218) 697-2476, Div. of Forestry, Hill City, 55748; 3 miles E. of Hill City on Hwy. 200; 12 miles marked and groomed.

6. Marble

A. **Itaska Trail No. 1:** Greenway Snowmobile Club, Marble 55746, (218) 247-7697; 55 miles marked and groomed; trail map from James Giles, Bovey 55709; food and lodging in the area; shelters on trail; parking, toilets.

7. Marcell

A. **Marcell Trail:** South of Big Fork; (218) 832-3442; 20 miles marked and groomed; connects to Suomi G-I-A trail, lodging, food in area.

8. Nashwauk

A. **Day Brook Trail:** Buck Lake Area, Star Route 3, Box 72, Hibbing 55746; (218) 885-2109; 12 miles N. of Nashwauk on Hwy. 65; 16 miles marked and groomed; connects with Bear Lake Trail and Taconite Trail; maps, toilets and shelters on trail.

B. **Bear Lake Trail** (George Washington State Forest): (218) 263-6405; 15 miles N. of Nashwauk on Hwy. 65; 29 miles marked and groomed.

9. Tower-Soudan

A. **Bear Head Island State Forest - Tower Fishing Lakes Trail - Putnam Lake Trail:** 40 miles marked and groomed, at Tower (218) 753-4500.

B. **Tower-Soudan State Park:** From Soudan 1 mile W. on Hwy. 169; (218) 753-2245; 12 miles marked and groomed.

10. Virginia

A. **Laurentian Trail:** Range Trail Committee, P.O. Box 149, Virginia 55792; (218) 735-8513; 44 miles marked and groomed; connects with Taconite Trail; trail map from DeLyle Pankratz, 22 Park Dr., Mt. Iron 55768.

Iron Range Country Canoe Trails

Minnesota's Iron Country offers a limitless variety of canoeing waters. From the unique Boundary Waters Canoe Area to the lakes and rivers near the iron ranges, beginners and experts alike can satisfy every canoeing need.

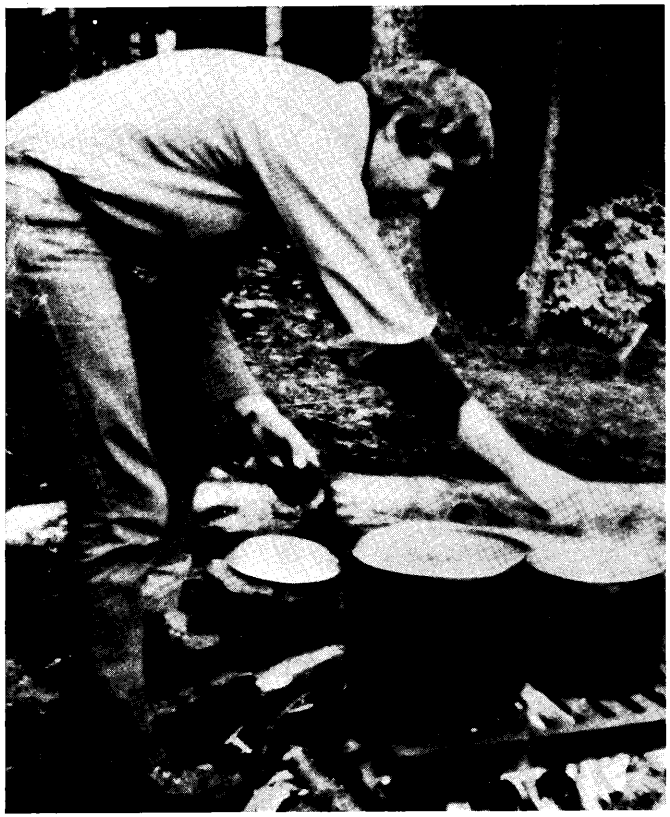
The following rivers and canoe routes were chosen by the state legislature for the quality and variety of river experiences they offer.

Pocket size canoe route maps are available free upon request from the Department of Natural Resources Rivers Section. The maps show river miles, campsites, access points and rest areas. They also show hazards such as dams, rapids and waterfalls, and include a brief description of the rivers.

Wildlife is abundant along rivers and canoe routes. Waterfowl are everywhere. In Minnesota's Iron Country, one may have the opportunity to catch a glimpse of a moose or black bear, or mallard.

Fishing is also excellent in many of these rivers.

Don't let your lack of a canoe stop your river adventure; the chambers of commerce in towns and



cities on the iron ranges can generally provide the names and locations of private canoe outfitters.

Also important to note is that a river's level is necessary to consider when planning a canoe trip. High water may make some rapids treacherous; a low level may mean you will drag your canoe more than paddle it. The rivers section of the Minnesota DNR provides river level reports for the state-designated canoeing rivers from May 1 to October 31. Call (612) 296-6784 for this information.

1. CLOQUET RIVER:
Crossed by few roads and bounded predominantly by public land, the Cloquet River is one of the state's most pristine waterways.

Starting at spring-fed Katherine Lake in southern Lake County, the Cloquet flows 96 miles to join the St. Louis River. The Cloquet alternates between long placid stretches and boulder-filled rapids that roar with spring runoff.

The Cloquet River valley supports an abundance of wildlife. Canoeists may glimpse bald eagles riding air currents or a moose foraging in a backwater bog. Anglers may find the river best in mid-summer or at other times when the river is low. Notable game fish in order of abundance are channel catfish, northern pike, walleye and smallmouth bass.

Because the Cloquet is so remote, float trips require much planning. Cars may have to be driven more than one hundred miles to pick up canoes. Roads are often in poor condition. The river's inaccessibility may increase the severity of mishaps.

2. THE ST. LOUIS RIVER:
The St. Louis is a picturesque river flanked with pine, black spruce and jack pine in its upper reaches. Here, gravel and sandbars create riffles and an everchanging scene. Larger rapids and boulder fields should be left to challenge experienced canoeists, especially when the water is high. Generally wildlife is characterized by big game—deer and moose. Hunting for white-tailed deer and ruffed grouse is very popular; fishing is another strong attraction. Many deep pools harbor catfish and some weighing up to fifteen pounds have been taken.

From Seven Beaver Lake, the river flows southwest to parallel several iron range towns. South of

Virginia, the river turns south and flows to Floodwood. From there, the river flows to Cloquet, Duluth and into Lake Superior.

3. BIG FORK RIVER:
A canoe trip down the Big Fork River is a journey into the past, a retracing of the route used by Indians, fur traders, loggers and early settlers.

Heavy stands of pine, massive hardwoods, spruce and balsam shade the banks of the Big Fork, from its source to its mouth. Sugar maples profusely cover the ridges of the Bowstring area; on the upper reaches of the Big Fork are large fields of wild rice.

Furbearing animals, including beaver, are on every tributary. Waterfowl darken the sky during migration, and although the caribou are gone, this is still moose country.

Little American Falls and Big Fork Falls are mandatory portages at all times.

Paddling gives good opportunity to travel leisurely and quietly to see wildlife, but there are many rocks and submerged snags.

The current in most places will provide moderate travel speed, but because water depth and rate of travel are subject to rainfall and season of the year, it is impossible to predict time between two points in advance. To help the canoeist, mile signs have been erected on the river banks.

4. THE LITTLE FORK RIVER:
The primary charm of the Little Fork River is its wild character. Even in the farming areas through which the river flows, there is a sense of wilderness. In other parts, dense cover and large trees line the banks, moose wallow in the muskeg swamps, and deer browse the meadows. In the smaller tributaries are muskrats and beaver. There are also ducks and other Minnesota birds throughout. Fishing is excellent especially for muskellunge and walleye.

The route covers 132 miles from the town of Cook to the Rainy River. The upper part, from Cook to the Silverdale Bridge, is rolling country. Below Hananen's Falls, the river has intermittent rapids, some of which must be run with extreme care and are possible only under normal water conditions. Outside the town of Little Fork, the river flows through rolling farm land.

Farther downstream are the Nett Rapids; moderately long and difficult, they should be walked in low water. Below the rapids, the bends of the river are choked with logs and stumps and the banks are high and covered with clay. In the LeVallee River area is dense forest with towering cedars, some exceeding three feet in diameter. Below the LeVallee River confluence is an interesting phenomenon of vertical bank slumping. The clay material is very cohesive and shears in such a way that the trees fall vertically into the water.

In the upper section (Cook to Highway 65 at the Silverdale Bridge) there are ten bridges, four with accesses.

From the Silverdale Bridge to mile 37.5, the Little Fork River is a true wilderness stream.

5. THE MISSISSIPPI RIVER:
The Mississippi River, flowing south into Aitkin County, enters a flat forested plain, the bed of glacial Lake Aitkin. The river is deep, slow and sinuous in this stretch, with many oxbows forming islands surrounded by slack water. Most of the oxbows are not readily apparent from the main channel, providing the canoeist an opportunity to discover secluded river channels of another era.

Farming has considerably diminished the upland forests of jack pine, aspen and balsam fir; vegetation on the floodplain consists primarily of ash and elm.

Although some wood ducks, goldeneyes, mallards and blue-winged teal nest along the river, most migrating waterfowl prefer nearby lakes, off-river marshes and wild rice beds. This stretch is not heavily hunted for waterfowl, but ruffed grouse hunting is excellent. Some woodcock also are present.

Otter, mink, muskrat and deer are common; one of the prime deer hunting spots in the state is north and west of the river.

Walleyes and northern pike are the game fish most sought by anglers in this stretch. Northern pike are by far the more abundant species. Walleye fishing is best at the confluences of small tributary streams. Largemouth and smallmouth bass and an occasional muskie may also be taken.

Big Sandy Lake, the site of an Ojibwa Indian village, was the scene of a battle in the 1760s between the Dakota and Ojibwa tribes. Coming immediately before the decisive battle downriver at Crow Wing, the Sandy Lake clash was part of a campaign that resulted in the final expulsion of the Dakota from their lands east of the Mississippi.

Sandy Lake was also the site of trading posts established by the Northwest Company and the American Fur Company. Post employees lived primarily on a diet of wild rice bought from the Indians, potatoes they grew themselves, game and fish. Flour, salt and tea were luxuries.

Above and below Aitkin the Mississippi flows through the Cuyuna Iron Range. The Cuyuna differs from the Vermilion and Mesabi Ranges in its high manganese content; in World War I 90 percent of the nation's manganese came from the Cuyuna. The ore was first discovered here in the 1890s by surveyor Cuyler Adams. The name of the range is a combination of Adams' first name and the name of his dog, Una.

Aitkin became an important lumbering and transportation center in the latter half of the nineteenth century. Logs were floated downriver past Aitkin and riverboat traffic abounded, carrying passengers and freight to the north country.

Lakes Managed for Trout within Iron Range Country

Nearest Town	Lake Name	Acreage	Species	Route to Lake
AURORA	Cedar	25 acres	Rainbow/Brook Trout	2 miles South on County 100; West 4 miles on Hwy. 6528
BIWABIK	Silver	34 acres	Rainbow	5½ miles South on County Hwy. 4; 1½ miles East on County Road 525
BOVEY	Moonshine	25 acres	Rainbow/Brook	3 miles East on Hwy. 169; 12.2 miles North on Scenic Hwy.; 9 miles West on County Road; 0.8 miles West on Forest Trail
BOVEY	Nickel (Nichols)	17 acres	Rainbow	3.1 miles East on Hwy. 169; 23.6 miles North on Scenic Hwy.; 1 mile West on County Road 45; 0.3 miles South on access trail
BUHL	Camp 4 (Wesserman)	17 acres	Rainbow	2.3 miles North on County Road 125; 7.9 miles North on County Road 25; 0.3 miles West to private landing
CHISHOLM	Dollar	11 acres	Rainbow/Brook	1.9 miles North on Hwy. 73; 3.0 miles North on Sturgeon Lake Road; 1.8 miles North on CAR 484
CROSBY	Portsmouth Mine Pit	130 acres	Rainbow	Northwest edge of Crosby on State Highway 6
ELY	Found	58 acres	Rainbow	Landing; by boat 7 miles to portage on North side of Newfound Lake; portage 30 rods
ELY	Chant	19 acres	Rainbow	1 mile East on Hwy. 169; 2 miles North on County Road 88; 9.5 miles North on the Echo Trail; 3 miles Southwest on Forest Road 644 to public access (across from Slim Lake portage) on North Arm of Burntside Lake; 4 miles South by canoe to North Arm Narrows; portage East 80 rods.

Lakes Managed for Trout continued

Nearest Town	Lake Name	Acreage	Species	Route to Lake
ELY	Dry	75 acres	Brook	6.5 miles North on Echo Trail; 1 mile Northeast on access trail.
ELY	Little Dry	10 acres	Brook/Rainbow	6.5 miles North on Echo Trail; 1 mile Northeast on Dry Lake access trail; South across Dry Lake and portage 50 feet.
ELY	Hanson	22 acres	Brook/Rainbow	1 mile South by boat from North tip of North Arm of Burntside Lake into small bay; portage 0.5 miles South and East.
ELY	High	319 acres	Rainbow	7.4 miles North on Echo Trail; 2 miles West on access trail.
ELY	Regenbogan	9 acres	Brook/Rainbow	14.2 miles North on Echo Trail; 0.2 miles East on trail.
EMILY	Allen	46 acres	Rainbow	3.25 miles North of Emily; 2.5 miles West and North around Roosevelt Lake; 0.3 miles Northwest by trail.
EVELETH	Little Elbow	8 acres	Rainbow	3 miles Southwest to Iron Junction; 1.75 miles West on County Road 452; 1.25 miles North and East on County Road 315; continue East on rough trail; lake on Northwest side.
TOWER	Cub	10 acres	Brook	9 miles East on State Hwy. 1; 2 miles South on Eagles Nest Road; 4 miles East and South on Bearhead Lake Road (lake located in State Park on North side of Bearhead Lake 300 feet North of road.

Lakes Managed for Trout continued

Nearest Town	Lake Name	Acreage	Species	Route to Lake
TOWER	Norberg	8 acres	Rainbow	9 miles East on Hwy. 1; 2 miles East on Eagles Nest and Bearhead Park Roads; 3.75 miles South on Bearhead Park Road; walk in 300 feet South side of road.
VIRGINIA	Jammer	18 acres	Rainbow/Brook	10.6 miles North on Hwy. 53 from junction of 53 and 169.
WINTON	Ahsub	62 acres	Rainbow	Portage Southeast 162 rods from the Southeast corner of Snowbank Lake to Disappointment Lake; Northeast to North on Disappointment Lake; portage North for 8 rods.
WINTON	Glacier Pond II	5.2 acres	Brook	12 miles East on Fernberg Road; ½ mile South on trail.
WINTON	Skull (Section14)	23 acres	Brook	17.5 miles East on Fernberg Road to Moose Lake Public Landing; by boat 7 miles to portage on South side of Newfound Lake; portage 400 feet.
WINTON	Tofte	112 acres	Brook/Rainbow	12 miles East on Fernberg Road; 0.3 miles North on trail.
WINTON	Alruss	28 acres	Brook/Rainbow	1.3 miles West on St. Louis County Road 781; 9.7 miles North on Cloquet Line; 3.3 miles Northeast on Jackfish Spur; canoe west across Sandpit Lake; 150 rod portage West.
WINTON	Louis	23 acres	Rainbow	1.3 miles West on St. Louis County Road 781; 12.7 miles North on Cloquet Line; canoe East on Picket Lake outlet through Mudro Lake to North shoreline near outlet; portage Northwest 80 rods.

Iron Range Country Lakes with Public Access

	Miles from Town/City	Name of Lake	Size of Access Lot
AURORA	2 miles South	Cedar	1.0 Acre
	miles East	Colby	1.0 Acre
	8 miles Southeast	St. Louis River	1.0 Acre
	5 miles South	South Twin	1.0 Acre
	15 miles South	White Face River	1.0 Acre
	5 miles Northwest	Wynne	.2 Acre
BABBITT	11 miles Northwest	Bear Lake - Site 1	1.0 Acre
	8 miles Northwest	Bear Lake - Site 2	1.0 Acre
	8 miles North	Bear Lake - Site 3	1.0 Acre
	2 miles Northwest	Birch Lake - Site 1	1.0 Acre
	1.5 miles North	Birch Lake - Site 2	1.0 Acre
	3 miles Northeast	Birch Lake - Site 3	1.0 Acre
BIWABIK	7 miles South	Bass	.3 Acre
	1 mile South	Embarass Lake - Site 1	1.5 Acre
	edge of town	Embarass Lake - Site 2	1.0 Acre
	14 miles Southeast	Loon	1.0 Acre
	7 miles South	Lost	1.0 Acre
	15 miles South	Mud Hen	.7 Acre
	13 miles Southeast	North Twin	1.0 Acre
	7 miles South	Silver	1.0 Acre
BUHL	11 miles North	Dark	.2 Acres
	6 miles Southeast	Spirit	.5 Acres
CALUMET	1 mile East	Snowball	1.0 Acres
CHISHOLM	14 miles Northwest	Little Sturgeon	2.3 Acres
	9 miles North	Long	1.0 Acres
	9 miles Southeast	McQuade	4.1 Acres
COLERAINE	8 miles Southeast	Chase	1.0 Acres
	edge of town	Trout	.3 Acres
CROSBY	9 miles Northeast	Harvey Drake Landing	5.0 Acres
	10 miles North	Lower Dean	5.0 Acres
CROSBY	edge of town	Serpent	1.0 Acres
	11 miles Northeast	Upper Mission	2.9 Acres
CUYUNA	1 mile North	Rabbit	1.0 Acres
DEERWOOD	5 miles Southeast	Bay	1.4 Acres
ELY	10 miles South	Birch Lake - Site 2	1.0 Acres
	6 miles East	Farm	1.0 Acres
	5 miles East	Garden	1.0 Acres
	9 miles Southeast	Kawishiwi River - Site 2	1.0 Acres
	18 miles East	Moose	2.0 Acres
	18 miles East	One	1.0 Acres
	9 miles Southeast	South Kawishiwi River	1.0 Acres
	13 miles East	Tofte	1.0 Acres
	7 miles East	White Iron	1.0 Acres
	6 miles Northwest	Burntside - Site 1	1.0 Acres
	11 miles West	Burntside - Site 2	1.0 Acres
	6.5 miles Northeast	Fenske	1.0 Acres
	6 miles South	Johnson	1.0 Acres
	13 miles Northwest	Nels	1.0 Acres
	6 miles South	One Pine	1.0 Acres
	1 mile North	Shagawa - Site 1	1.0 Acres
	edge of town	Shagawa - Site 2	1.0 Acres
	15 miles Northwest	Slim	1.0 Acres
	4 miles South	White Iron	1.0 Acres
EMILY	10 miles South	Adney	1.5 Acres
	6 miles East	Birchdale	3.0 Acres
	1 mile Southwest	Dahler	1.0 Acres
	4 miles Northeast	Duck	5.1 Acres
	½ mile South	Emily	1.0 Acres
	10 miles Southeast	Island	1.0 Acres
	3 miles North	Ruth	3.0 Acres
	10 miles Southeast	Upper Dean	5.0 Acres
EVELETH	7 miles Southwest	Elbow	1.0 Acres

Public Access continued

	Miles from Town/City	Name of Lake	Size of Access Lot
EVELETH	12 miles South	Elliot	1.1 Acres
	6 miles West	Haenke	1.0 Acres
	14 miles South	Murphy	2.3 Acres
	8 miles South	St. Louis River	4.0 Acres
GILBERT	at Sparta townsite	Ely Lake	.5 Acres
	5 miles Southeast	Horseshoe	1.0 Acres
	7 miles Southeast	Lost Lake	.5 Acres
GRAND RAPIDS	edge of town	Blandin	.3 Acres
	15 miles Northwest	Chase	.3 Acres
	15 miles North	Long	1.0 Acres
	5 miles West	Loon	.2 Acres
	15 miles Northwest	Moose	5.0 Acres
	4 miles Southwest	Pokegama - Site 1	1.0 Acres
	9 miles Southwest	Pokegama - Site 2	1.0 Acres
	5 miles South	Pokegama Lake	6.0 Acres
	6 miles North	Prairie	1.0 Acres
	9 miles South	Smith	.5 Acres
	13 miles Northwest	Stevens	.4 Acres
	11 miles Southwest	Sugar "Siseebakwet"	1.0 Acres
	15 miles North	Wabana - Site 1 & 2	2.0 Acres
HIBBING	15 miles North	South Sturgeon	1.0 Acres
	15 miles North	Gansey	1.0 Acres
	14 miles South	Janet	1.0 Acres
	9 miles East	McQuade - Site 2	1.5 Acres
HOYT LAKES	5 miles Southeast	Bird	1.0 Acres
	edge of town	Colby - Site 2	1.0 Acres
	6 miles Southeast	St. Louis River	2.0 Acres
	1 mile West	Whitewater	1.0 Acres
IRONTON	4 miles West	Black Bear	5.0 Acres
	edge of town	Blackhoof	1.0 Acres
	5 miles Northwest	French Rapids	1.0 Acres
KEEWATIN	14 miles South	Beauty	1.5 Acres
MT. IRON	5 miles Southwest	Doherty	1.0 Acres
NASHWAUK	10 miles North	Buck	1.0 Acres
	12 miles Southeast	Long	.2 Acres
	7 miles Northwest	McCarthy	1.5 Acres
	8 miles North	School (Shoal)	1.0 Acres
PENGILLY	8 miles Southeast	Hart	1.0 Acres
	edge of town	Swan	1.0 Acres
RIVERTON	edge of town	Little Rabbit	1.0 Acres
TACONITE	15 miles North	Balsam	.9 Acres
	13 miles North	Crooked	1.0 Acres
	9 miles North	Lawrence	1.0 Acres
	4 miles North	O'Reilly	1.0 Acres
TOWER	12 miles East	Armstrong	.2 Acres
	12 miles East	Bearhead Lake - Site 1&2	1.0 Acres
	14 miles East	Eagles Nest N. Four	.2 Acres
	15 miles South	Little Rice	.2 Acres
	10 miles West	Pfeiffer	1.0 Acres
	11 miles East	Robinson	1.0 Acres
	edge of town	Vermilion	1.0 Acres
	1 mile North	Vermilion	1.0 Acres
	2 miles Northwest	Vermilion	1.0 Acres
	12 miles Northwest	Vermilion	1.0 Acres
VIRGINIA	14 miles North	Arrowhead "Auto"	1.0 Acres
	12 miles North	Big Rice	2.0 Acres
WINTON	3 miles North	Cedar	1.0 Acres
	5 miles East	Fall - Site 1	1.0 Acres
	5 miles Northeast	Fall - Site 2	5.0 Acres
	14 miles East	Kawishiwi River	1.0 Acres
	22 miles East	Snowbank	4.0 Acres
	10 miles North	Picket	.3 Acres

Rock Hounding in Iron Range Country

Minnesota's ribs exhibit the handiwork of nearly every geologic process on earth. The area on and surrounding the iron ranges provides rewarding experiences for the amateur geologist as well as for the sightseeing tourist.

Rules for the Rockhound

1. Always obtain permission to enter private property. And whether the land is private or public, treat it with care. Don't litter and be careful with fire.

2. Be careful in all mines, quarries and pits. Most have hazardous locations of which you should stay clear.

3. **Never** throw rocks over cliffs—you may endanger persons below.

4. Proper tools and equipment are important. You should have a pair of sturdy hiking boots and a rock hammer or masonry hammer. A small shovel for breaking through topsoil and a pocket knife for testing for hardness would also be useful. When breaking rocks be sure to wear safety glasses.

5. Remember that rocks and mineral specimens are a nonrenewable resource. Do not take more specimens than you will need; conserve the supply for those who will follow you.

The Quartz Minerals

1. **Lake Superior Agate:** Minnesota's state gemstone, the Lake Superior Agate, can be found almost everywhere in the state, except in the northwest corner. It is most abundant, however, in the northeastern section of the state. This is a distinctive stone; invariably you will find a banded pattern in the overall design. It comes in almost every color, but the basic colors are red, brown, gray and white. Once the stone is tumbled or polished, the luster will last forever. The best time to look for agates is shortly after a rain, especially if the sun is at an angle; then the stones will show up very well. Anywhere you find gravel is a good place to start looking.

2. **Binghamite:** This mineral is usually red or yellow and is of gem quality. Red Binghamite can be found near Ironton and other Cuyuna Iron Range localities.

3. **Jasper:** Jasper may be found in any of the glacial drifts. A common variety is a flecked or freckled deep red to purple. Mary Ellen Jasper, found in the Mary Ellen Mine near Biwabik, is red or pink with red or white swirls.

4. **Silkstone:** This is commonly found with Binghamite and can range from yellow to brown to gray blue or green or any combination of these colors.

The Iron Minerals

1. **Hematite:** Hematite occurs in a variety of shapes and forms ranging from black to red; all three iron ranges contain hematite.

2. **Pyrite:** The legendary "fools' gold," this is a brassy-yellow, metallic iron sulfide found often as cubes in the Portsmouth Mine dump in Ironton and near Glen Lake in Aitkin County.

3. **Goethite:** This is found in the Mesabi and Cuyuna Ranges.

4. **Magnetite:** A heavy, black variety of iron oxide, this is the common ore material of the taconite industry.

The Manganese Minerals

Manganese minerals are characterized by a pink color in the silicates or carbonates and black or gray colorings for the oxides. Geologically, this group of minerals has a history similar to the iron ores, and Minnesota's Cuyuna Range is one of the best locations for them.

1. **Pyrolusite:** This is found as metallic, needle-like crystals with color ranging from steel gray to black.

2. **Manganite:** This mineral can be found in the Roberts Mine Dump north of the village of Cuyuna, on the Cuyuna Range. It occurs as prismatic crystal groups that may be striated.

3. **Psilomelane:** This resembles geothite and hematite except that the streaks will be black rather than brown or red. It is found in abundance wherever manganese ores are located.

4. **Groutite:** Groutite is found as wedge-shaped crystals in manganese ores and is very difficult to distinguish from manganite, although it is definitely a new mineral that was first found in the Sagamore Pit on the Cuyuna Range. The crystals have a high luster.

5. **Ramsdellite:** Exceedingly rare, this occurs as radiating clusters of shiny black crystals in a dull gray matrix in the Monroe-Tener Mine near Chisholm.

6. **Rhodocrosite:** This is not common and is sought as a semi-gem material. It has perfect cleavages in three directions and is found in the rocks of the Cuyuna Range. In its impure form it is gray, but the scarce, rose red variety may be found in veins of some mines in the Cuyuna Range and in the dump of the Hopkins Mine at Crosby-Ironton.

This is only a brief listing of a few of the many minerals that can be found in the vicinity of the iron ranges. With luck and persistence, the rock hound may find others such as native copper and staurolite.

There are many locations on the three iron ranges where amateur geologists can observe specific geological features. Following is a listing of some of these sites. For more details be sure to visit the **Geology Wing** of the Iron Range Interpretative Center.

The Vermilion Range

Travelling west on Highway 160 from Tower Minnesota

1. At Tower, east of the railroad underpass — roadcut in Ely greenstone. 30 feet to the north of the greenstone is the Knife Lake formation conglomerate containing sedimentary and igneous fragments. In a clearing northeast of the conglomerate is Knife Lake graywacke.
2. 0.1 miles west of Tower the road is cut through a large outcrop of the Knife Lake Formation.
3. 0.7 miles west of Minnesota Highway 135 there is a folding in the sedimentary rocks.
4. 2 miles west of Minnesota Highway 135 on the south side of the road there are sedimentary rocks of the Knife Lake Formation, intruded by dikes.

Travelling on County Road 77

1. 0.55 miles north of Highway 169 at the bridge over the Pike River, there are Knife Lake sedimentary rocks which are faulted.
2. 3.5 miles north of Highway 169 is the crest of the Vermilion Moraine which dams Lake Vermilion in a bedrock basin.

Travelling on County Road 697

1. At the north end of County Road 697, in McKinley Park, between Pike Bay and Lake Vermilion, interlayered Lake Vermilion Formation: tuffs, graywackes, conglomerates, slates and the Soudan Iron Formation.

Travelling on Highway 169 east and west of Ely, Minnesota

1. Near Winton at the water tower is a Knife Lake Formation outcrop.
2. Off Highway 169 in Ely between 12th and 13th Avenues East is an example of a pillowed

structure of a glacial erratic of Ely Greenstone.
3. 0.25 miles west of Ely there is a roadcut in Ely greenstone.

The Mesabi Range

Travelling on Minnesota Highway 135

1. At Gilbert, behind the elementary school is an example of Ely greenstone, pillowed and tilted to the vertical.
2. Between Gilbert and Virginia are outcrops of Knife Lake slates.

Travelling on or near U.S. Highway 53

1. Laurentian Divide Wayside Rest, 5 miles north of Virginia, Minnesota — At the south end of the wayside is Ely greenstone. At its north end are younger gneisses intruded by still younger granite.
2. 3 miles south of Idington (0.2 miles south of County Road 110) is the Giant's Ridge Formation: gneiss, gray granite, pink granite, coarse grained granite intruded into pink.
3. At Eveleth in the Midway Garden Subdivision is Knife Lake conglomerate.

Travelling on Highway 169 west of Virginia, Minnesota

1. At Hibbing, open pits expose the Biwabik Iron Formation and Virginia slate.
2. In the mine dumps west of Hibbing cretaceous fossils (sharks' teeth, fish bones, oysters, ammonite shells) can be found in cretaceous debris.
3. North of Nashwauk on County Road 88, 2.75 miles west of Minnesota Highway 65, tuffaceous greenstone can be seen in ditches along the road.

In the vicinity of Grand Rapids

1. Itaska County Natural Area, 14 miles east on U.S. 2, then five miles south on County Road 72: river meanders, ox-bow lakes, alluvial soils and outwash sands.

The Cuyuna Range

Crow Wing County was covered by glacial deposits which offer examples of many glacial features but few rock outcrops except for glacial erratics.

Glacial Features

1. Ice-block basins in outwash in a preglacial valley — Upper and Lower Long Lakes.
2. Ice-block basins in outwash — Cullen, Edwards, Pelican, Hubert, Grass, Long, Upper and Lower Mission, Round Sandbar, Sibley and Whitefish Lakes.
3. Ice-block basins in till — Broden, Clearwater, Portage, Rabbit, Ruth, Crooks, Kego and May Lakes.
4. Ice-block basins in till and outwash — East Fox, Emily, Gull, Mitchell, Roosevelt and Serpent Lakes.
5. Lakes in tunnel valleys — Long, Hill and Pine Lakes.
6. Cuyuna Range mines and dumps all contain iron bearing cherts, intrusives and drift.
7. At the Sagamore Mine in Riverton can be found sparse examples of Pleistocene fossils: wood, extinct horses, bison, beaver in the glacial drift.
8. East of Jenkins, Minnesota, 100 yards south of County Road 16, or 0.6 miles east of the Peoria Store, or 4.4 miles east of U.S. Highway 371 (on a path) is the only exposure in Minnesota of an erratic of the Trout Lake Formation.

Iron Range Country Radio

Tune into Iron Range Country news and events when travelling through our region.

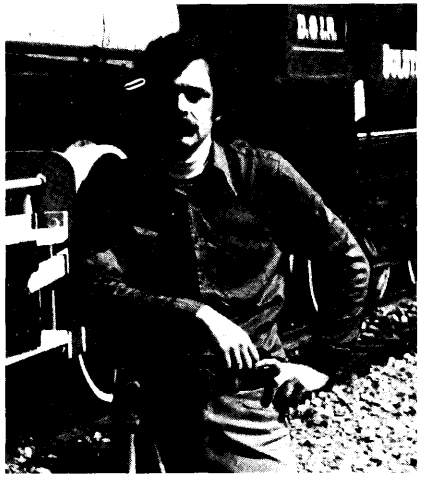
AITKIN	KKIN - AM	930 kc.
	KEZZ - FM	94.3 kc.
BRAINERD	KLIZ - AM	1380 kc.
	KVBR - AM	1340 kc.
	KLIZ - FM	95.7 kc.
ELY	WELY - AM	1450 kc.
EVELETH	WEVE - AM	1340 kc.
	WEVE - FM	100 kc.
GRAND RAPIDS	KOZY - AM	1320 kc.
	KAXE - FM	91.7 kc.
	KXGR - FM	96.7 kc.
HIBBING	WKKQ - AM	1060 kc.
	WMFG - AM	1240 kc.
	WMFG - FM	106.3 kc.
VIRGINIA	WHLB - AM	1400 kc.
	WHLB - FM	107.1 kc.
DULUTH	WEBC - AM	560 kc.
	KDAL - AM	610 kc.
	WDSM - AM	710 kc.
	WWJC - AM	850 kc.
	WAKX - AM	970 kc.
	KAOH - AM	1390 kc.
	KUMD - FM	89.1 kc.
	WSCD - FM	92.9 kc.
	KAOH - FM	94.9 kc.
	WDTH - FM	103.3 kc.
	WGGR - FM	105.1 kc.

Iron Range Country Newspapers

AURORA	**East Range Journal Facts**
BIWABIK	**Biwabik Times**
BOVEY	**Scenic Range News**
CHISHOLM	**The Tribune Press & Free Press**
CROSBY	**The Crosby-Ironton Courier**
DULUTH	***Herald** ***News-Tribune** **Budgeteer**
ELY	**The Ely Miner** **The Ely Echo**
EVELETH	**Range Scene**
GILBERT	**Gilbert Herald**
GRAND RAPIDS	**Herald-Review**
HIBBING	***Daily Tribune**
NASHWAUK	**The Eastern Itascan**
VIRGINIA	***Mesabi Daily News**

** denotes daily publication

Iron Range Country production team



Fred J. Thompson

production director/photographer

From the age of twelve until he left in 1962, Fred Thompson explored and photographed the people and neighborhoods of New York City. Graduated in 1967 from Cornell University, he and his wife spent two years in Turkey in the Peace Corps where he worked as an advisor to Turkey's Minister of Tourism and Information. Since settling in northern Minnesota he has been a township supervisor, charter member of the Iron Range Historical Society and organizer of Northwoods Pioneer Crafts Co-op, Minnesota's largest crafts cooperative. In 1978 he won the American Museum of Natural History's Grand Prize for photography. As president of Midwest Visuals Inc., he has directed and produced over 22 teaching units interpreting Minnesota's natural and human history, as well as film, videotape and slide-sound productions for state and national agencies and organizations.

Pamela M. Thompson

principal author/editor

Raised in a small Hudson River community whose early industry included cutting ice for steamboats, Pamela Thompson was graduated from Cornell University and served in the Peace Corps for two years. Settled, with a cat and a greenhouse, on an eighty acre forest homestead in a sparsely populated community south of the Iron Ranges, she and her husband own and direct the communications firm of Midwest Visuals Inc. A charter member and among the first board of directors of the Iron Range Historical Society, Pam now serves on its publications committee. She is a freelance writer and columnist, exploring ways in which people's sense of place affects their lives, and her work has appeared in national and regional publications.

Robert Calton

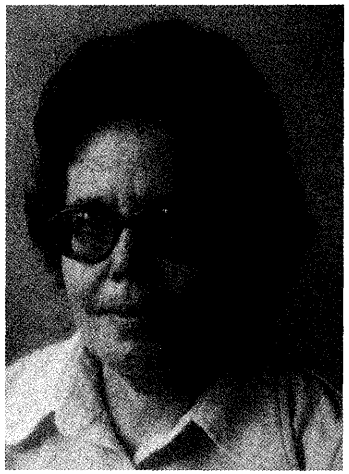
graphic designer

Bob Calton has been a northeastern Minnesota graphic designer for the past fourteen years. Born and raised in St. Paul, he came to Duluth in 1965 after completing his education at the University of Minnesota, and the School of Associate Arts in St. Paul. Bob has been employed in a variety of design situations including newspaper, television, architecture and magazine publishing plus four years as a freelance designer. A list of his credits includes: the illustrations in the Duluth legacy book **Architecture** and awards for his letterhead designs by the St. Paul/Minneapolis Art Directors Club and the New York City Art Directors Club. Currently, Bob is an art director for Harcourt Brace Jovanovich in Duluth and teaches stained glass at two area universities.

John Salminen

illustrator

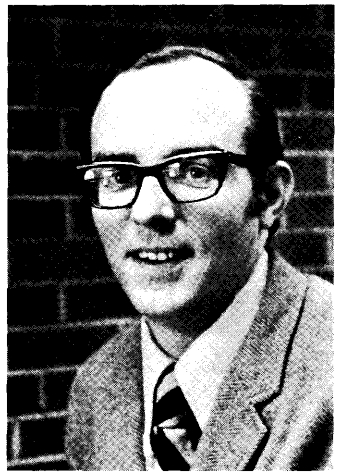
John Salminen was born in Minneapolis, Minnesota in 1945. He received his B.S. degree in Art Education from the University of Minnesota, Duluth and is currently finishing his masters degree there. He has exhibited his work in many shows, including three consecutive years in the Midwest Watercolor Show, and has won numerous awards. One of his paintings won the best of show award at the Arrowhead Art Exhibit, and also received a purchase award from the Northwestern Bank of Commerce. He recently received a purchase award from the University of Minnesota. Currently, he is teaching at East High School in Duluth.



Delores Lakso

author

Delores Lakso was born in Tower, Minnesota and grew up in rural Vermilion, Aurora and Tower. She has degrees from the University of Minnesota, Duluth and the University of Wyoming, and now teaches English at Mesabi Community College. With Scandinavian immigrant grandparents and bilingual parents born on the Iron Range, she has experienced the history of the Ranges: her grandfathers' early days in the mines, their leaving them, one to homestead, the other to establish a boarding house and to work in town. The struggles of her grandparents to survive and to succeed in a raw new land, and the experiences of her parents, are both the substance of her life and part of the story of these Iron Ranges.



Timothy G. Roufs

author

Timothy G. Roufs is associate professor and Head of the Department of Sociology-Anthropology at the University of Minnesota, Duluth. He graduated from the University of Notre Dame and received M.A. and Ph.D. degrees from the University of Minnesota. A former National Institutes of General Medical Sciences Fellow, Tim has conducted research on the Leech Lake Indian Reservation and in the central highlands of Mexico. In 1971-1972 he served as Principal Investigator for a grant which established the American Indian Studies Program at the University of Minnesota, Duluth. A native of Minnesota, Roufs is the author of **The Anishinabe of the Minnesota Chippewa Tribe.**

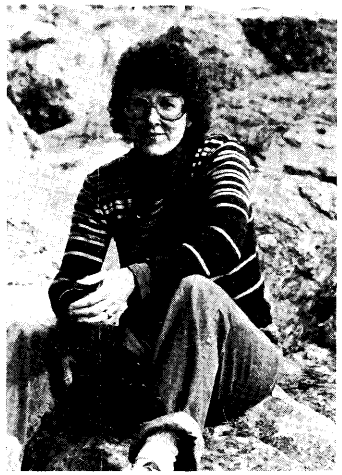
Donald L. Boese

author

Donald L. Boese was born in St. Paul, Minnesota in 1935. He attended the University Of Minnesota and earned a B.A. degree in anthropology and an M.A. degree in history.

Don taught history at Mankato State College from 1962-1970 and has been an anthropology and history instructor at Itasca Community College in Grand Rapids since then.

He is the author of **John C. Greenway and the Opening of the Western Mesabi** and is presently serving a second four year term on the Bovey City Council.



Kathleen Salminen

author

Kathleen (Whalen) Salminen was born in Minneapolis, Minnesota in 1947. She received a B.S. degree in Elementary Education from the University of Minnesota in Duluth. After having taught for several years, she is currently busy raising their two sons, Nathan and Eric, and is the owner and director of a preschool in Duluth. Kathy and her husband, John, live in a log house that they built together, in the countryside near Duluth.

Marian Syrjamaki

copy editor

Marian Syrjamaki is a native of Chisholm, Minnesota and, except for excursions to both coasts, has been a life-long resident of northeastern Minnesota. She attended Carlton College, and was graduated with a B.A. in English from the University of Minnesota, Duluth, where she is now employed. Marian lives in Duluth with her son Joshua and spends her summers farming in Brimson, Minnesota.

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Our grateful thanks go to many people for their information and encouragement during the researching and writing of this book. We hope we have presented a sensitive look at the Iron Ranges these men and women call home:

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Mrs. Inga Nyman, Coleraine, Minnesota

Among the many research manuscripts, term papers, theses, books, and records into which we delved for information, these contributed in a major way to the finished product:

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