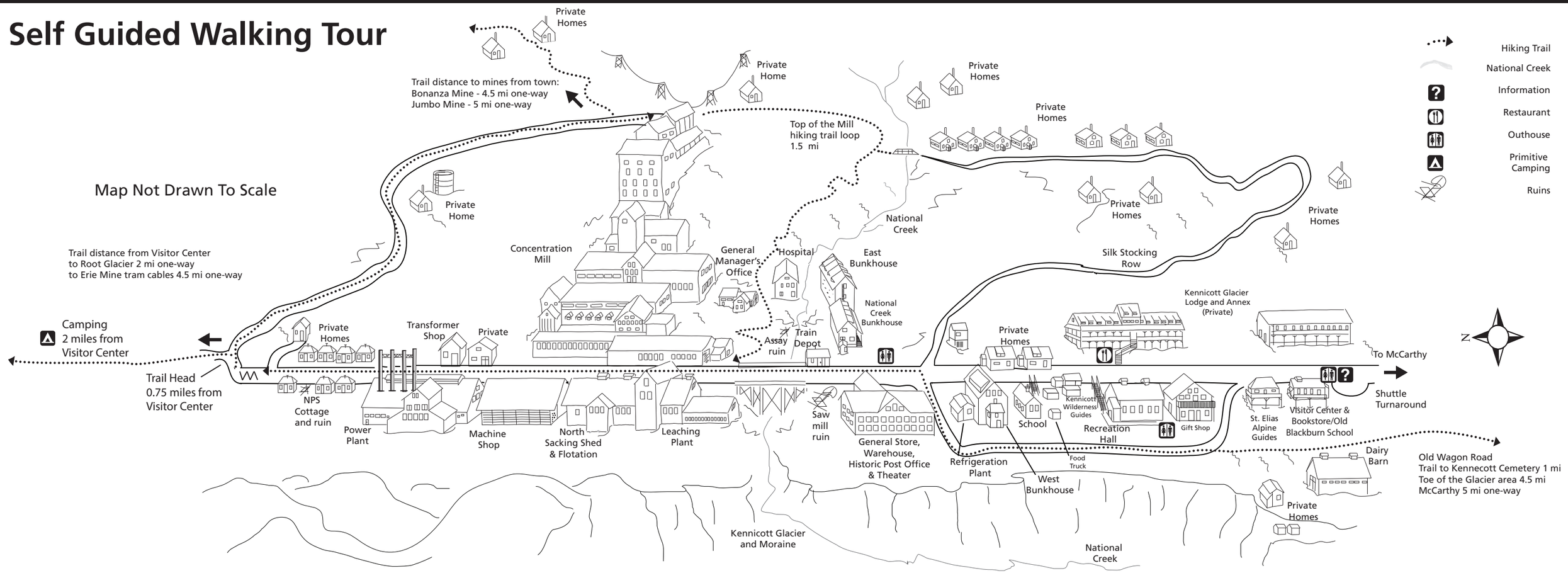
Kennecott Mines National Historic Landmark

National Park Service
Department of the Interior

Wrangell St. Elias National Park and Preserve

Self Guided Walking Tour



Welcome to Kennecott

The Kennecott mill camp and mines are an extraordinary relic from America's past. These impressive standing structures and artifacts tell stories of Alaskan exploration, westward expansion, technological modernization, World War I, expansion of multinational corporations, and the death of monopolies. More intimately, Kennecott provides insight into the lives of the people who took on the challenge of living and working here.

Why Here?

The wild, remote, and isolated Kennicott Valley on the surface seems like an odd place for industry, but the rugged Alaskan landscape actually holds the key to the discovery and development of one of the world's richest ore bodies.

Generations of Ahtna people collected native copper found in the Wrangell Mountains, working it into art, utensils and arrowheads. Prospectors flooding into the area in the wake of the '98 Gold Rush knew there was copper as well as gold in these mountains, so it was no surprise when the Bonanza Mine was discovered in 1900. Prospectors Clarence Warner and "Tarantula" Jack Smith looked up Bonanza Ridge and saw what appeared to be green pastures, a mountainside stained with the emerald hues of copper ore.

Developing the rich ore body would require tremendous effort, ingenuity, and money. During the early 1900's, one could not find bigger financial backers than the Havemeyer, Guggenheim, and J.P. Morgan families.

With a young east coast mining engineer named Stephen Birch managing, the three families formed the Alaska Syndicate, which quickly gained a monopoly over the area's mining operation. When copper from Kennecott reached the world's markets and the Syndicate became profitable, the group reorganized as the Kennecott Copper Corporation, which still operates other mines around the world today.

The Corporation supplied the world with copper for electrification, utilities, industrial development, and munitions for the World War I effort. Kennecott Copper Corporation managed all aspects of their operation with creativity, skill, and at times a heavy hand.

Kennecott's Story

Kennecott, established in 1900, expanded in stages until the mid-20's. As mining increased, camp needs grew.

Waste rock from the ore, called tailings, helped level the land for building on the valley's steep hillsides. By 1938, there were more than 100 buildings in camp. But with a limited supply of ore and dropping prices, Kennecott closed that year after producing 200-300 million dollars worth of copper and silver. After closing, the camp endured many different eras: private mining, resort development, tourism, and homesteading. Now the area's rich history is celebrated as Kennecott Mines National Historic Landmark and has been part of the National Park Service system since 1998.

Things to do in Kennecott

We encourage you to explore with a sense of discovery! This self-guided walking tour provides information about the buildings as you walk through the site. Other activities in the area include: * Hike to the historic mines or the Root Glacier. * Walk the historic wagon road to MCarthy. * Explore the Kennecott Cemetery on the way to the toe of the Kennicott Glacier *

In response to guidance from the Centers for Disease Control (CDC) and the State of Alaska and in support of federal, state, and local efforts to slow the spread of the novel coronavirus (COVID-19), Wrangell-St. Elias National Park and Preserve is adapting park operations to limited and strategic locations where visitors typically congregate or frequent in close spaces.

Currently, all buildings administered by the National Park Service (NPS) in the Mill Site of the Kennecott Mines National Historic Landmark are closed. The buildings are only accessible through our concessionaire, St. Elias Alpine Guides. Their office can be found on the map, at the beginning of town.

Please follow CDC guidance to reduce the spread of COVIC-19. *Practice social distancing. *Wear a face covering when social distancing cannot be maintained. *Wash your hands often with soap and water for at least 20 seconds. *Cover your mouth and nose when you cough or sneeze. *And most importantly, stay home if you feel sick.

Exploring Kennecott

Safety

No matter how you choose to visit the site, explore safely. Kennecott is an old industrial site and has many hazards. Respect closures. You are also in a wild place, so be aware of your surroundings and stay alert for quickly changing weather and the presence of wildlife, such as bears. Be aware that portions of the Kennecott Mines National Historic Landmark are private property. Please respect private property by confining your exploration to public lands. Do not disturb or remove artifacts from the site. Take nothing from Kennecott but inspiration for your soul, questions for your mind, and photographs for your memories.

Kennicott & Root Glaciers

The 27-mile long Kennicott Glacier begins on the flanks of Mt. Blackburn (16,390 ft.), Rime, Atna, and Parka peaks. Wondering why you don't see blue ice? The glacier's ice is covered by rocks and dirt, called a moraine. The surface moraine comes from erosion of surrounding valley rock and not from the scattering of mine tailings onto the glacier. To hike to the Root Glacier, access is available via the Root Glacier Trail. Stop by the Visitor Center to get a more detailed trail map.

Dairy Barn

Except for ore and water, Kennecott's workers had to bring in everything from the outside in order to survive. To relieve the cost of shipping in all food for the camp, a simple barn held a few cows which supplied fresh milk. Local families raised chickens for eggs, and community and private gardens were planted around the mill site.

Old School and New School

Imagine attending class next to a towering glacier and an extremely loud copper mill. It was certainly a unique learning environment, but education in Kennecott was different in another way as well; students included both youngsters and adults. In the evenings the corporation taught English and citizenship courses. By 1920, the night school had 126 adult students from 23 countries, while the largest children's school class had only 20.

Recreation Hall

The Kennecott Copper Corporation valued a happy and safe workforce. They developed wholesome activities such as movie night, dances, and Christmas parties which took place in the Recreation Hall. Outdoor recreation happened on the company ice rink, baseball field, handball, and tennis courts. When the miners and mill workers wanted to experience a less wholesome type of recreation, they traveled five miles down the hill to McCarthy, where women, dance halls and saloons replaced tennis and movies.

East and West Bunkhouses

Kennecott was generally a community of transient men. Some worked for just three months in order to pay off their train fare; others stayed several years. Men lived two to a room and paid around 1.25 a day for room and board. There were several bunkhouses scattered throughout the mill and mine sites. Kennecott hosted multinational crews including workers from traditional mining backgrounds such as Norwegians, Swedes, and Irish workers. Japanese cooks provided meals and other camp services. Single women who worked in camp lived separately on the third floor of the Staff House, called "No Man's Land".

Refrigeration Plant

Why would a community with a glacier in their backyard need a refrigerator? They didn't. However the innovative corporation always experimented and took advantage of the latest technology and materials they had available, in this case the cooling ability of compressed ammonia. As you enter the building, check out the compressor, the access to the railway that helped to move food supplies in and out of the building, and the still- hanging meat hooks.

General Store and U.S. Post Office

This building connected the remote residents of Kennecott to the outside world. Families could purchase just about anything that could be found in the "lower 48." If the store didn't have it, an order could be placed through popular catalogs. However, they would have to be prepared to wait a month or more for a special order to arrive.

Sawmill Ruin -next to the General Store. This was one of the first buildings to be constructed on the mill site. Through 1910, the sawmill was busy processing local wood as a 40-man work crew built the camp and mine infrastructure. The gravity concentrator mill, rocker tables, jigs, and the sacking area were all framed before the site was connected to the outside world by the Copper River & Northwestern Railway in 1911.

Depot, Trestle, and Rails

To be profitable, the operation needed railway transportation to the coast so ore could be shipped to be processed in Tacoma, Washington. The Copper River & Northwestern Railway, nicknamed "Can't Run and Never Will," was built between 1907 and 1911. At 196 miles long, with 30 miles of bridges and trestles, it took 6,000 men, and $23 million to build. Within days of completion, the first trainload of ore, worth $250,000, rolled down to Cordova. Kennecott's future success was insured, and the large eastern financial investment justified.

National Creek

To operate a mill and camp without a reliable supply of water is impossible. Dams upstream on National Creek and Bonanza Creek were able to supply most of the camp's water needs for ore processing, fire suppression, and drinking water. In the winter when creek levels were low, it was said Kennecott could "wear out water" by reusing it over and over again. At other times high water and floods damaged buildings. As recently as October 2006, floodwaters wiped out the Assay Office and nearly took out the Hospital and the East Bunkhouse. Stream dynamics and fluctuating water levels constantly changed the look of the National Creek corridor.

General Management Office (GMO)

The GMO was the hub of corporate activity throughout mining operations. In 1915 Kennecott became a publicly traded company with its most productive years to follow. The corporation restructured its operations and enhanced town life by adding several services, such as the General Store and Recreational Hall. However, these niceties were not enough to keep the entire workforce happy and in 1917, the workers went on strike. With hard tactics by the corporation, the strike was busted 45 days later, and the workers signed a pledge not to join a union.

Hospital

In 1915 Kennecott also added a hospital. The hospital not only treated the miners and mill workers, but also became a mecca for medical care in the surrounding community. It housed Alaska's first X-ray machine. A dentist would visit the remote outpost once a month for check-ups and other work. Each employee's pay was charged eight cents a day to cover medical expenses. Today, that sounds like a bargain!

Concentration Mill

Shipping ore to Tacoma was expensive and required the copper ore to be concentrated for maximal profitability. The most economical process for rich ore was gravity concentration. Ore and waste rock were delivered to the Mill from the five remote mine sites via tramway at a rate of up to 1,200 tons of ore per day. Once in the Mill, ore went through a series of crushers and sorters using gravity and water to move the rock from one process to the next. Once waste was removed, ore was loaded into burlap bags and stacked on open rail cars and shipped to the coast. Construction of the Mill evolved over 20 years as new mining processes were developed. Over time, deteriorating ore quality demanded different processing techniques, continual equipment modifications, and additions to the mill structure, resulting in the current unusual roof line and jumbled appearance of the iconic red building.

Leaching and Flotation Plant

Gravity concentration is only efficient for high grade ore. To process lower grade ore, new techniques were needed. E. Tappen Stannard was hired to develop an industrial scale ammonia leaching process. Large tanks were filled with gravel-sized pieces of low grade copper and an ammonia solution. The ammonia dissolved the copper in the ore. The copper-rich solution was then transferred to other tanks known as evaporators. These tanks were heated until the ammonia evaporated. The ammonia was recycled, leaving behind a very concentrated residue, which was then bagged and shipped to the smelter. Overall 25-30% of Kennecott's ore was processed through ammonia leaching, increasing the profitability of the site.

As ore concentrations continued to decline, a flotation process was installed in 1923. Finely ground flour-sized pieces of low-grade ore shaken out during the gravity concentration process were mixed with pine or eucalyptus oil and air to create a mineral rich foam. The heavier copper particles were trapped in the foam, skimmed off, sacked, and shipped to the smelter; 10-12% of Kennecott's ore was processed this way. With these processes, Kennecott was able to extract up to 98% of the copper from the ore.

Machine Shop

To keep Kennecott operating efficiently required skill, creativity and self-sufficiency. The men kept the machines functioning and the machines kept the mines and mill productive. Equipment in need of repair traveled from the north side of the Mill building on a narrow-gauge service tram and crossed the main railway via a drawbridge to the Machine Shop. Remnants of the drawbridge support are still standing just north of the Mill building.

Power Plant

Kennecott required power to support both the mill town and the mines several miles up the mountain. The Power Plant, characterized by the four towering smokestacks, was constructed in three stages between 1911 and 1924. Disaster struck in August 1924 when the Plant burned down, but it was quickly rebuilt and in operation again by October 1924. The Plant used two diesel generators, a Westinghouse steam turbine, and a Pelton waterwheel to provide power and steam heat. Steam and electricity traveled to outlying buildings and homes through "utilidors". The warm utilidors were built under wooden walkways, which kept them free of snow and ice in the winter.

Cottages and Silk Stocking Row

Only 10% of Kennecott's population lived in cottages with their families. Middle and upper management level employees paid about 25% of their income to the company to live in these small homes with their wives and children. Cottage position, plumbing, room size, and building colors all reflected status in the remote town; the higher up the home, the higher up the chain of command.

The end of the tour is here but before you leave…

Contemplate, would you have accepted the challenges of working in this wild Alaskan place? And why?

Ver. 6/22/2020 jlh