



JUNEAU – DOUGLAS MINING DISTRICT

TREADWELL MINE

HISTORIC TRAIL

WALKING TOUR MAP & HISTORIC GUIDE

Additional Juneau mining information is available at

Juneau-Douglas City Museum
Alaska State Museum
Perseverance Museum

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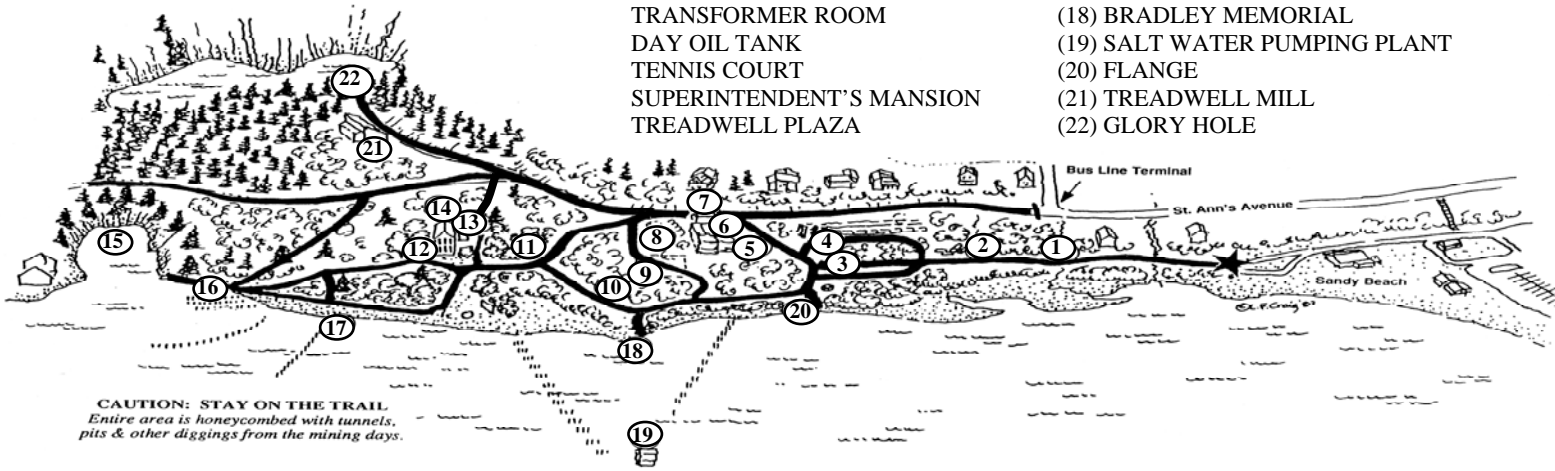
*Photo credits: Alaska Historical Library ASL
Juneau-Douglas City Museum JDCM
Alaska Electric Light and Power AEL&P
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TREADWELL HISTORIC TRAIL

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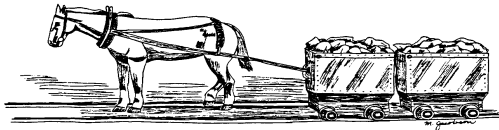
CAUTION: STAY ON THE TRAIL.
Entire area is honeycombed with tunnels,
pits & other diggings from the mining days.



Treadwell from Mayflower Island Paul Sincic Photographs ASL P75-420 ca 1898-1915

THE TREADWELL MINES

On Douglas Island, across Gastineau Channel from downtown Juneau, lie the remains of what in the late 1800s was the most advanced ore processing system used by the American mining industry.



This gold recovery process began with blasting ore bearing rocks off the sides of open pits and later in underground tunnels. In the bottom of the pits or from the tunnels, the blasted rocks were loaded in small ore cars on train tracks. The cars were pulled or pushed by hand or horses or mules or electrically powered engines to the bottom of a shaft below the hoist buildings. Cables pulled the ore cars to the surface where they were transferred to a second train system that delivered the ore to the stamp mills. The stamps in the mills pulverized the ore to the size of sand. The gold was collected and processed and the worthless sand sent to Gastineau Channel, some ended on Sandy Beach. Mining Engineering students still study and learn about what was done here. Details of the gold processing are described later in this pamphlet.

HISTORY – On May 1, 1881, a French Canadian prospector, Pierre Joseph Erussard (“French Pete”), accompanied by local Tlingit Natives, staked the Parris (later changed to Paris) Lode Claim on the site of what is now known as the “Glory Hole.” He found only low grade ore. Discouraged, Erussard sold his Paris Claim, some say for \$400, on September 13, 1881 to John Treadwell, a California carpenter with a mining background. Ed Bean and Sol Mathews had staked claims on one side of the Parris claim and they too sold their claims to Treadwell.

During its 40 year evolution, Treadwell grew from a single gold claim to four mines, five mills and a bustling community of workers and their families, complete with stores, mess halls, bunkhouses, a marching band and even Alaska’s first indoor swimming pool known as a natatorium. Today the surface remnants are overgrown with vegetation, but enough exists to piece together the history of that dramatic development.



Treadwell Gold AEL&P

The Treadwell Complex from 1883 to 1917 mined nearly \$70 million in gold. At peak capacity in 1915, the 960 stamps of the Treadwell complex crushed 5,000 tons of rock daily – a world record at the time – with an average value of \$2.50 a ton. The mine operated 24 hours a day, 7 days a week, 363 days a year employing approximately 2000 men who worked eight-hour shifts. Christmas and July 4 were the only days the mines did not operate. In 1910 miners’ averaged \$100 per month, among the world’s highest wages at that time. If the miner was single, \$29.50 was deducted from wages -- \$25 for meals, \$1 for club membership, \$1.50 for medical service, and \$2 for his bed in the boarding house.

On April 21, 1917 all the mines, except the Ready Bullion, flooded with seawater. An extremely high tide, combined with questionable mining practices that lead to the removal of tunnel support structures and a lack of experience in mining below sea level, when they were adjacent to the sea, caused the ground to subside and mines to flood. The Ready Bullion Mine continued to operate until 1922 and its closure marked the end of hard rock mining on Douglas Island.

Ready Bullion Mine, 1500 ft. Level

P40-19 W.H. Case, 1908, AK State Library



THE TRAIL

The beginning of this Historic Trail is located just south of the second covered picnic shelter in Savikko Park on Sandy Beach.

The restored five-stamp mill pictured below is located on the left near the beginning of the trail. It is the original and first of the Treadwell Mills. It was installed and used in 1882. This stamp mill's successful extraction of gold from hard rock convinced John Treadwell that this process could be used here to make money.

The next year this small mill was replaced by a larger mill with 120 stamps. The Alaska Juneau Gold Mining Company moved the five-stamp mill to the Fuller 1st Mine in Silver Bow Basin above the present day Perseverance Glory Hole.

Thanks to Douglas historian Willette Jane's interest, with help from Juneau miner Jerry Harmon, the mill was brought back down in recent times to its present location.

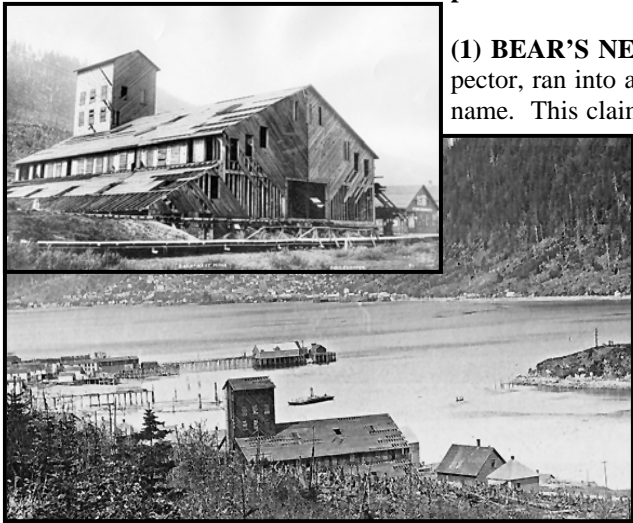


Five stamp mill restored in 2001 by CBJ Parks and Recreation staff.



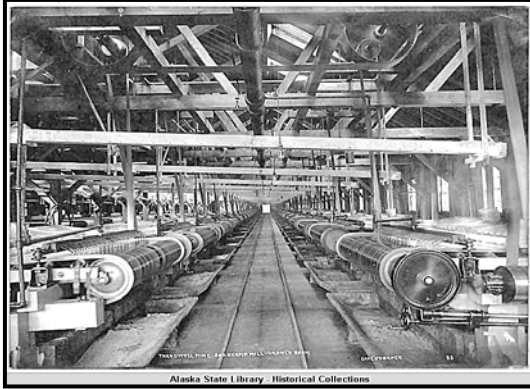
Original Five Stamp Mill near the Glory Hole AEL&P

As you walk down the trail look for numbered posts, with corresponding numbers on the map. The posts mark the site of each of the buildings or artifact that once stood there. Some of the sites also have photos posted to show the old buildings.



(1) **BEAR'S NEST MINE** – At this site in 1881 Henry Borein, a prospector, ran into a number of bears in the underbrush, giving the mine its name. This claim adjoined the rich Paris lode but turned out to be nearly barren rock. Later owners, however, combined this close proximity with careful gold salting and succeeded in selling \$8,000,00.00 in stock to English investors – at the time, it was the biggest mine swindle in history. A 1400 foot tunnel was driven and an 80 stamp mill, boarding house, and support facilities were built.

Bear's Nest JDCM2004.12.006

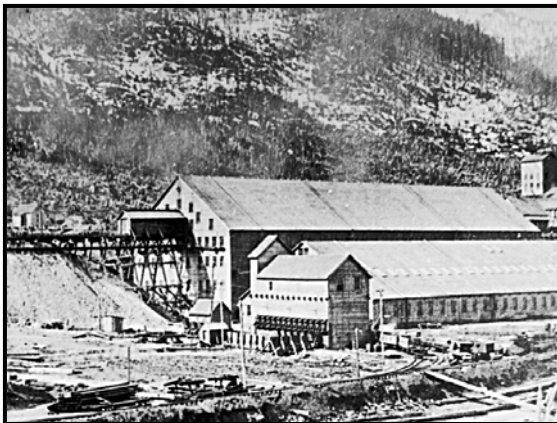


Vanner Room
P39-0924 Case & Draper Alaska State Library

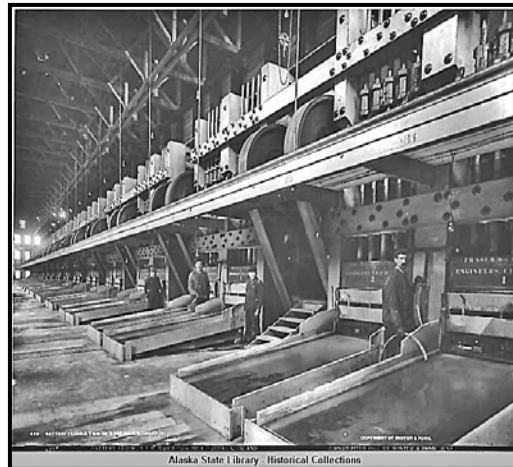
(2) **VANNER ROLLERS** – These cylinders, over which there was a rubber belt, rolled and shook the 300 Stamp Mill’s crushed rock in a constant flow of water, causing the waste rock to go over the top and the gold-bearing rock to remain at the bottom – a very efficient system. A total of 120 Frue Vanners, arranged in four rows of 30, were housed in a 340 foot by 85 foot single story wooden structure just below the 300 stamp mill building.

(3) **DRIVE PULLEYS** – Now rotting and moss covered, these large wooden pulleys were once mounted at the top of each rock crushing battery of five stamps in the mills.

(4) **300 STAMP MILL** – In 1899 the Alaska Treadwell Gold Mining Company erected a 300 stamp mill at this site. This is the largest number of stamps ever installed under one roof, anywhere in the world. After the ore from the mine tunnels arrived in the stamp mill for crushing, each 1,020 pound stamp, dropping 8 ½ inches 98 times per minute, crushed six tons of ore daily to fineness that would allow the ore to pass, with a stream of water, through a



300 Stamp Mill and Vanner Building



Long Row of 300 Stamps, 1899
P87-0376 Winter & Pond Alaska State

wire screen with 40 holes per square inch. The pulverized ore fell onto copperplates coated with mercury. Free gold, amalgamated with the mercury, was collected and retorted (heated to separate the mercury from the gold). The pounding of the stamps made so much noise that people in the downtown Douglas Café had to shout to be heard. When the mills shut down for Christmas and the 4th of July, people said they could not sleep because it was so quiet.



ML King 2007

The rest of the ore was washed and shaken on the inclined vanner belt. The gold in the gold bearing ore was removed at first in the sulphurettes (chlorination) plant. In 1912 a more efficient cyanide plant was built.

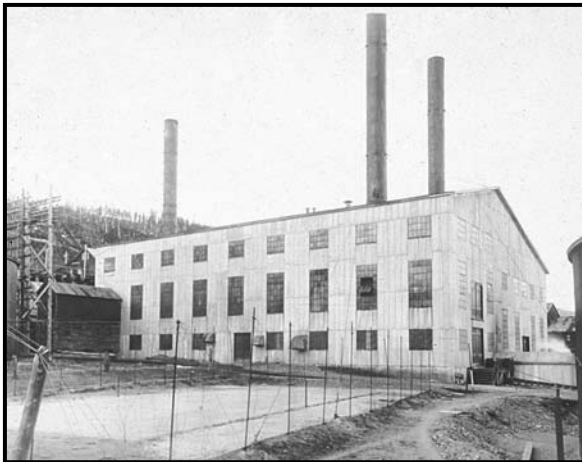
One wonders what might have caused the white, dead appearing, tree trunks on the hillside behind the buildings. Many of the trees had already been cut for underground supports and other mine uses. If you look at the woods, in this area, you will not see any trees more than 100 years old.



Cyanide Plant and Refinery for Producing Gold Bars
AEL&P

(5) RED BRICKS -- Bricks are all that is left of the early sulphurette (chlorination) plant that recovered gold from finely crushed ore by heating, treating with chlorine gas then water to release the soluble gold.

(6) CENTRAL STEAM PLANT AND SUMPS
The central power plant was built in 1913. The steel and concrete structure measured 100 feet by 135 feet. Crude oil was burned to produce electricity. It was the primary source of power in the winter when the water supply failed.



Central Steam Plant with tennis court in the foreground
AEL&P

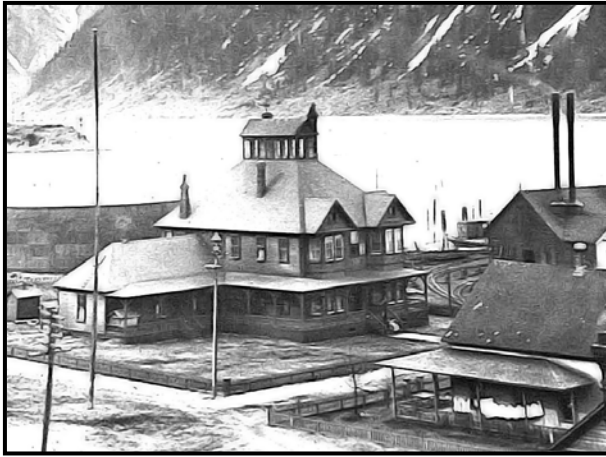
(7) TRANSFORMER ROOM – Starting in 1910, electricity transmitted from plants at Nugget Creek (near Mendenhall Glacier) and Sheep Creek (near Thane) was converted from 23,000 volts to 2300 volts. The electricity was then distributed throughout the surface and underground facilities.

(8) DAY OIL TANK – The large round metal band and the occasional sheen of oil is all that remains of what was the smaller of two tanks used to store oil for the steam plant.

(9) TENNIS COURT – Pipe posts and concrete under the moss still remain from the court that was probably used by mine officials and their families. A 1914 law limited miner's to eight hour days, so maybe some of them had time to play tennis.



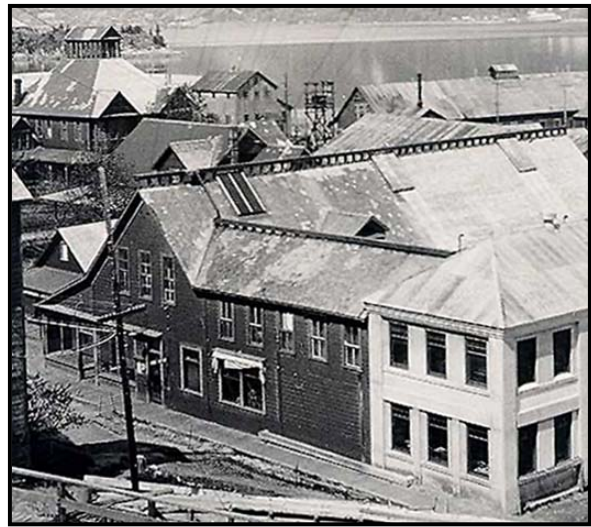
Tennis Court Posts in Foreground--Central Steam Plant in the background
MLKing 2007



(10) **SUPERINTENDENT'S MANSION** – Said to have been the most outstanding mansion in Alaska when built. It was destroyed in the 1926 Douglas fire that burned almost every wooden building in the area.

(11) **TREADWELL PLAZA** – Once was the center of town and site of 4th of July celebrations and many other activities. The Superintendent's Mansion was located in the Treadwell Plaza area.

Superintendent's Mansion
P40-16 Case & Draper 1908 Alaska State Library



(12) **NEW OFFICE BUILDING** – The edifice on the right in this photo, taken from the hill above, was destined for only a brief useful life span because of the disastrous 1917 cave-in. The older company store, a wood structure attached to the north side or to the left, in this photo, of the office building, was destroyed by fire in the 1920s, but the cement structure of the office building survives.

Store and Office Building
SL PCA 39-917



Inside the Office Building
P75-416 Louis H. Pedersen Alaska State Library



Office Building—
Store On the Right



The Treadwell Company Store
P39-1142 Case and Draper Collection Alaska State Library

STORE – By 1902, the store carried the largest stock of merchandise in Alaska. The prices were less than in Puget Sound and everything from fancy clothes to the best foods could be purchased.

(13) VAULTS – The concrete structures next to the office building that had been in the store before it burned, were the vaults in which gold, company books, records, and engineering maps were stored. The two large safe doors that covered the vaults were saved and now belong to Alaska Electric Light and Power Company.

(14) ASSAY OFFICE – The tall post with foundation was used to stabilize the gold balance. Assay work was free to local prospectors. The company hoped that if the discovery was significant they would think of partnering with the mine.



Cave-in S.B. Combest
Jim Geraghty Collection 1917

(15) CAVE-IN – At 10:57 p.m. on April 21, 1917, a hole 30 feet deep and 15 feet wide was found under the Fire Hall with water running in from the hillside. Five minutes later water from Gastineau Channel began running into the hole. The three mines that flooded had a working depth of 2800 feet and some 10 million tons of ore had been removed.

The mines were not actually under the channel, but caved in from the side. An estimated three million tons of seawater filled this space in three and one-half hours. It took one hour and forty minutes to get all of the men out of mine after the alarm was sounded. Water and rocks were pouring down on the cage of the hoist when the last men were lifted out. Less than

an hour later, a geyser of salt water spouted 200 feet above the combination shaft from which the men had evacuated. Only one man was reported missing and some thought he had skipped town. Others thought he did not make it out of the mine in time. A dozen horses, one mule and machinery were not saved.



Natatorium
Winter and Pond ASL P87-0386

NATATORIUM housed a large gymnasium and swimming pool. The wife of the hoist operator (whose name is not known) wrote the following account: “One Friday (the day before the cave-in) when the ladies were enjoying their day in the swimming tank (I’ve always been thankful I was not there), all of sudden the water left the tank in one big gulp.”

Then the final early Sunday morning, April 22, account by Chief Geologist Livingston Wernecke: “The flood-tide increased rapidly the volume of water and soon undermined the Natatorium, which with many cracks, groans, and noises of splitting boards, disappeared about 1:15 a.m. It was immediately followed by the Fire Hall. The stream by then had become a mighty, the size of the Yukon at Whitehorse rapids. The roar of rushing water and caving banks was terrifying.”



(16) TREADWELL CLUB – All Treadwell miners and their families were members of the Treadwell Club, which stood on piles still visible in the sand near the cave-in. Club facilities included a 15,000 volume library, reading room providing 150 leading magazines and newspapers, auditorium with seating for 500 people, Turkish bath, bowling alley, dark-room, billiard and pool room.

Treadwell Club
ASL P39-BBB Alaska State Library



TREADWELL BOARDING HOUSES – The single miners lived in these buildings. The dining hall for these men was a little bit farther north where broken dishes still litter the beach.

The cement pillars along trail close to the Cave-in may mark the site of the building to the far end of photo above.

Treadwell Boarding Houses
AEL&P



TREADWELL TROLLEY – Because there were no roads between the mines, the trolley ran on the surface carrying the materials and the miners who worked in the mills. The trolley's tracks can be seen in several of the photos in this booklet. A few pieces of the old metal tracks can still be seen in the woods.

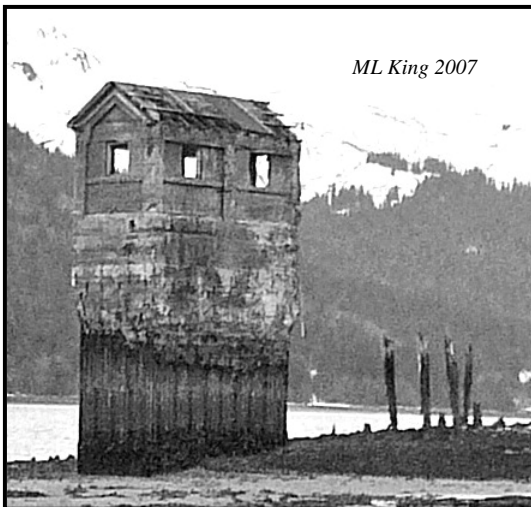
A second train system was in an underground tunnel that connected all of the mines. Ore and workers were transported to and from the hoists. The third system was on trestles well above ground that transported partly crushed ore to the stamp mills.

Treadwell Express
Case & Draper 1908 AK State Library



(17) SINGLE ROW OF PILING – These piles supported pipes through which waste sand was pumped out into Gastineau Channel after the gold had been removed. Some of the old photos show milky colored water most of the way across Gastineau Channel. We do not know the effect on sea life as there were not the environmental laws that we have today.

(18) BRADLEY MEMORIAL The memorial is located 50 feet toward the channel from the post. Mr. Frederick W. Bradley, President of Alaska-Juneau and Treadwell Mines, was held in high regard. He came from California to all 4th of July celebrations. One year he was late so they delayed the celebration until he could get to Treadwell. Bradley became world famous because of his success with these low-grade, high-volume, hard- rock-gold mines.



(19) SALT WATER PUMPING PLANT In 1914, this small concrete pump house was built on the 600 foot Treadwell Wharf. Two 2,700 gallon per minute centrifugal pumps supplied salt water for milling operations and fire protection during the winter months. The pump house and surrounding pilings are all that remain of the wharf, where supplies for the Treadwell mines were landed and from which the gold bullion was shipped south. Warehouses, coal bunkers, and a machine shop stood on the wharf.

(20) FLANGE Shortly before World War II, scrap metal such as this was still being sold to Japan. A Japanese ship was brought here and even the huge stamps from the mills were loaded aboard the vessel for shipment.



Treadwell Mill
1883 Bancroft Library Collection

(21) TREADWELL MILL The Treadwell Mill was the first big stamp mill in Alaska. In 1883 the Mill, located in the valley to the left of the hill road leading to the “Glory Hole”, started crushing ore bearing rocks with 120 stamps. The number of stamps was increased to 240 and more men were employed here than in any other one Alaska place.

On the hill leading up to the Glory Hole, look down in the valley to the left to see these cement structures that were once part of the famous first large Treadwell Mill.



The Treadwell Mine provided more than 50% of the ore for the whole Treadwell complex until 1917 when mine operators found that ore prospected below the 2300 foot level was so lean that the 240 stamp mill had to be closed and later half of the 300 stamp mill. It was not long after the closure that all the Treadwell mines, except the Ready Bullion, were flooded and closed on April 21, 1917.



(22) **GLORY HOLE** Until 1906 when all mining in the area went underground, open pit mining was the main way to extract gold bearing ore. The men drilled holes and loaded charges to blast the rock causing the broken pieces to fall to the bottom of the pit. The ore was taken out through a tunnel to the Hoist. 420 feet across and 450 feet deep. It was dangerous work and some say that this is called the “Glory Hole” because so many men had gone to their glory here.

Miners in the Glory Hole
P87-0357 Alaska State Library

Leave only footprints

To learn more about Treadwell Mining, leave more footprints to the Douglas Library that is located in the Douglas Firehall. They have old photos of Treadwell and reference materials.

**Hours: Mon-Wed 3-9 p.m.
Thurs 11-5 p.m.
Sat-Sun 1-5 p.m.**



Mexican Mill Miners
ASL P40-27