TALE
of the
LUCIN

A Boat, a Railroad and the Great Salt Lake

David Peterson

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Old Waterfront Publishing, Trinidad, California

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Published by:

Old Waterfront Publishing
1081 S. Westhaven Dr.
Trinidad, CA 95570
Phone: 707-677-0620
Fax: 707-677-0201
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First Edition

Printed in Canada

Publisher's Cataloging in Publication Data
Peterson, David
Tale of the Lucin: a Boat, a Railroad and the Great Salt Lake / David Peterson. first ed.
Includes bibliographical references and index.
F832G7P47 979.242
ISBN 0-9706383-0-2 softcover
CIP 00-093354

Front cover design: Jean Warner
Front cover drawing: David Peterson
Book design: Cindy Peterson

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Lucin the Survivor

Oldest Boat in the Fleet

The *Lucin* dockside in Eureka, California
courtesy of Bev Haman

Looking back now, I guess I must have been only eleven or twelve years old when I was first introduced to the *Lucin*. My uncle Bruce Campbell owned the *Sea Fox*, a forty-foot troller out of Eureka, California. When I stayed over with my cousin Carl, we would go down to the dock and play while helping his father with menial chores around his boat. One day while walking down the dock, Carl stopped at an old plumb-stemmed boat and boasted proudly, "This is the *Lucin*, oldest boat in the fleet. It used to be a tugboat on the Great Salt Lake. They say that the salt in the lake pickled her and that's why she's lasted so long." He then turned on his heels and continued down the dock, leaving me to stand there and wonder at this seemingly mystical boat. Instantly, a half-dozen questions flooded my mind, none of which was answered at that time.

Throughout the following years I spent fishing, I didn't really pay too much attention to the *Lucin*; she was just another boat on the horizon, out there earning her keep in a business that makes it difficult to keep what you are earning. It wasn't until I quit fishing (1983) and had been doing woodwork on boats for a while, that I took notice of her again. She spent most of the time tied to the dock, fishing not being as lucrative as it once was. I felt saddened by her idleness, knowing what she was capable of. She was built strong and rugged and the stories that were told about her were equally impressive. The *Lucin* had a good reputation, the kind a boat gets from coming through in the clinch, from bucking for hours in heavy seas, from being knocked down to 90 degrees and coming back up.

The *Lucin*'s local notoriety as a good sea boat was earned while she was under the ownership of Rich Haman back in the 1950s; and like anyone who gives a boat a reputation for being tough, so was he. A good friend of mine named Jim Blum, of the fishing vessel *Tempest* recalls: "If you were in port and Rich was out fishing and you called him on the radio to see how the weather was, he would say, 'I don't hear anyone else complaining.' Trouble was, he would be the only one out."

Both my father Andrew Peterson, and my uncle Bruce Campbell, worked for Rich Haman, at different times during the eight years he owned the *Lucin*. So, for me, the tale of the *Lucin* is a personal one, as it is for many in the port of Eureka. It seems as though a lot of fishermen have a soft spot for the *Lucin*, a fondness and respect for the true old timer. Whenever a group of fishermen get together and talk about boats and strange things that happen to them, the *Lucin*'s name pops up and invariably ends the topic, for no one can possibly best what had happened to her.

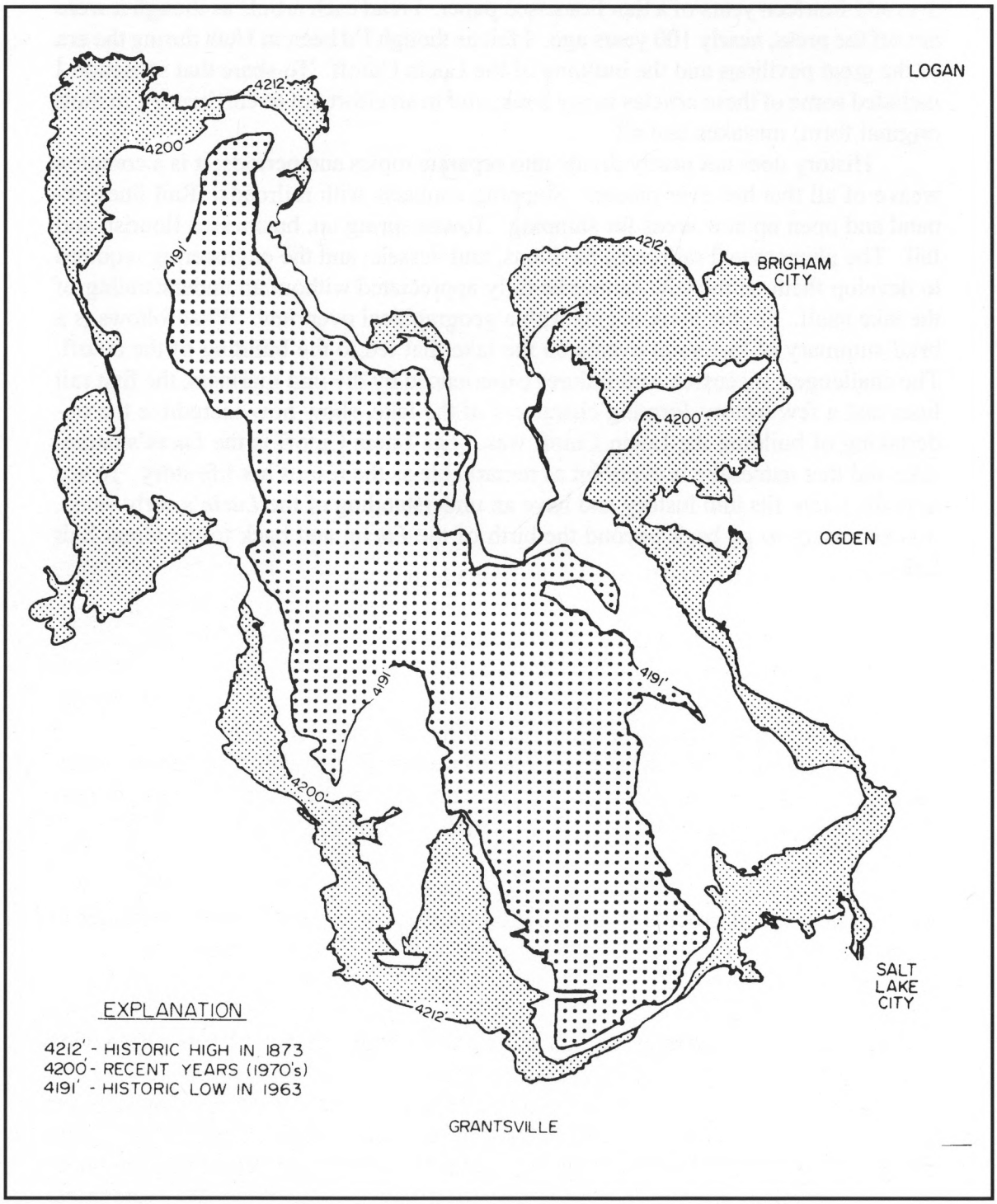
I knew that the *Lucin* was an old boat, but didn't realize exactly how old until it was pointed out to me by her most recent owner, Joe Mello. Joe was quite proud of the fact that his vessel was soon to be 100 years old. It was shortly after this that I began to prepare what I thought would be a newspaper article to commemorate her one-hundredth birthday. However, as I began to check into the *Lucin*'s past, the answers that I found revealed more questions as the story became more involved and intriguing. I realized that my planned newspaper article would not be finished in time for the *Lucin*'s centennial, nor would an article do justice to the vast information I had discovered. That is when I decided to write this book.

I started to gather information from the old-timers in the port of Eureka. I didn't have to go out of my way to do this: that's where I work. My business is repairing the local fishing boats. My specialty is the restoration of the older wooden boats in the fleet. I fell into this work after spending twelve years commercial fishing. Experience at sea was a good background for boat repair: I know first hand what Mother Nature is capable of dishing out. I hold a deep respect for the ocean, those that fish it, and the boats that survive it, as the *Lucin* did. The local fishermen knew little about the *Lucin*'s early years, except that she had worked as a tugboat on the Great Salt Lake.

Often a boat's name is the key to its past and even its origin. I'll never forget the feeling that struck me the first time I looked at a map of the Great Salt Lake and saw that almost perfectly ruled line through its middle. It seemed to be a road, a road with the name Lucin. I was hooked from that moment. I searched three years for any clue or scrap of evidence that would substantiate a connection between the old boat in Eureka, CA and the road across the Great Salt Lake. Roy Web, photo collections curator, University of Utah Library, guided me toward sources including microfilm of newspapers from the year the *Lucin* (the boat) was built through the year the Lucin (the road) was complete. But I didn't find the link between the boat and the road (which, by the way, is a railroad) until later, at the California Railroad Museum, in Southern Pacific's floating equipment ledger.

I took on the arduous task of scanning through ten years of three Utah newspapers and fourteen years of a San Francisco paper. I read each article as though it were hot off the press, nearly 100 years ago. I felt as though I'd been in Utah during the era of the great pavilions and the building of the Lucin Cutoff. To share that sensation I included some of these articles in my book, and in an effort not to edit history, in their original form, mistakes and all.

History does not neatly divide into separate topics and periods; it is a complex weave of all that has ever passed. Shipping connects with railroads. Rail lines expand and open up new areas for shipping. Towns spring up, businesses flourish and fail. The phenomenal railroads, pavilions, and vessels, and the engineering required to develop them on the lake cannot be fully appreciated without an understanding of the lake itself. So, the book begins with a geographical overview. What follows is a brief summary of historical events on the lake that led to the building of the cutoff. The challenges, successes, and failures experienced by the first mariners, the first rail lines and a few history-forming characters of the lake, show how incredible the undertaking of building the Lucin Cutoff was. The Lucin Cutoff is the *Lucin*'s namesake and that namesake is every bit as remarkable as the rest of her life story. To see how the *Lucin* fits into history and have an understanding of the *Lucin*'s early years, it is necessary to go back beyond the birth of the *Lucin*, and back to the Great Salt Lake.



Map illustrates changes in lake size due to fluctuation of water level
courtesy of Wallace J. Gwynn

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A Brief Maritime History of the Great Salt Lake

The Great Salt Lake

The Great Salt Lake is not only the most distinctive but also one of the most misunderstood bodies of water in the United States. It is the largest body of water west of the Mississippi, and occupies the bottom of the largest closed basin in America (The Great Basin). But not all of its characteristics are grand: the lake's average depth is a mere 15 feet. Not surprisingly, the lake has many legends and myths. An early myth was that it was connected to the Pacific Ocean through an underground cavern which acted as an outlet. Actually, if a cave from the lake to the Pacific did exist it would have nicely drained it, since the lake sits at 4,200 feet above sea level. Without any outlets, the Great Salt Lake is not a lake at all, but rather an inland sea, commonly known as America's Dead Sea. Perhaps if it had been named the Bonneville Sea it would be less confusing, for the Great Salt Lake is but a mere remnant of its ancient predecessor.

Around the edges of the basin one can easily distinguish the benches or terraces left during periods of prolonged and constant lake levels that occurred more than 16,000 years ago. At Lake Bonneville's maximum size (about 14,500 years ago) it breached Red Rock Pass in southeastern Idaho and opened up a channel, allowing a huge amount of water to escape into the Snake River. The lake receded through the natural process of evaporation until there was only a salty reminder of what once had been the Bonneville Salt Flats and the Great Salt Lake.

Since the Great Salt Lake has no outlets, the stability of the water level depends upon the amount of flow into the lake and the rate of evaporation. This balance is delicate, and the range of variation between high and low water has been wide throughout the history of the lake. As the amount of water in the lake increases, the salinity drops. This decrease in salt content increases the rate of evaporation, causing the lake to shrink. As the lake gets smaller, its salinity increases, thereby slowing the rate of evaporation. This natural process helps keep the lake from getting too huge, or drying up all together; but by no means does it keep the size of the lake in complete check.

The actual salinity of the water varies according to both time of year and location on the lake. Near Bear River, on the eastern side of the lake, the water ranges

from fresh to brackish. On the northwestern side of the lake the water can reach nearly the saturation point of 27.5%. At maximum salinity the lake is approximately 5 times as salty as common seawater. The only element that stays somewhat constant in the system is the amount of salt, about 8 billion tons, and that amount is increasing slowly due to rivers depositing minerals into the lake. These minerals are washed from the rocks and trapped in the lake. The water is then allowed to evaporate and the cycle is repeated.

Fresh water is supplied to the lake by precipitation and tributaries, mainly on the eastern side of the lake. Three main tributaries to the lake are the Weber, Bear, and Jordan rivers. Although the Great Salt Lake is indisputably the largest body of water west of the Mississippi, it is difficult to state the actual size of the lake in specific terms due to the dramatic fluctuation of the lake's surface area as the water level rises or falls. This characteristic is caused by the lake's immensity relative to its shallowness. In some places the slope of the shoreline is so gradual that if the water level changes three or four inches, the water's edge moves a mile. One must settle on an approximation when referring to the lake's dimensions. It is roughly 75 miles long, 30 miles wide, and 35 feet deep at its deepest point.

With the lake's high salinity, and fluctuating water levels, one might think the lake would be devoid of any life forms. Yet brine shrimp and brine flies flourish in its waters and along its shores. Brine shrimp are about a 1/2-inch long and actually turn the waters red with their numbers. Each year the shrimp die off and only their eggs survive the harsh winter months.

Brine shrimp and brine flies feed the magnificent bird population that flourishes along the shores of the lake and its islands. Between 2 and 5 million birds migrate to the Great Salt Lake each year. Gunnison Island alone is visited by 20 thousand white pelicans that use the island for nesting before returning to Mexico.

There are seven main islands that dot the Great Salt Lake, but depending on the water level there can be as many as 13. The two largest are Stansbury, which is only an island at extremely high water, and Antelope, which is an island during periods of relatively high water. The remainder of the time these two islands are connected to the lake's south shore.

Though small in comparison with other seas of the world, the Great Salt Lake is vast enough not only to affect outside weather patterns, but also to create its own. Because of the unique composition of the lake (due to its surface area, depth, and salinity) it is very effective in retaining heat. This characteristic can cause a variance between the lake's temperature and the surrounding air temperature, thereby creating strong winds from the more westerly direction. This phenomenon is much more common during the spring and fall when most temperature change occurs and the variation is at its maximum.

In the midsummer months the lake is generally cooler than the surrounding air and this has an opposite effect, causing a land breeze. The area is known for its sudden storms, blinding snows, and fog in the winter. The lake affects the wintertime weather in such a way that snow deposits are heavier in some places than in others.

Bountiful (one place influenced most by the "lake effect") receives 100 inches of snow per year.

As on the Pacific Ocean, one of the true threats to mariners on the lake is the southerly wind. Sometimes before a cold front moves through, the wind will suddenly rise to over 80 miles per hour, lifting waves as high as 8 feet on the lake's long open stretches.

Throughout history the Great Salt Lake has been an obstacle for travelers; it lies directly in the middle of the only natural path between the mountains. Early emigrants to California used trails north of the lake, leading to the Pacific Northwest and the Oregon Trail. As California became the mecca of western expansion, some settlers sought a more southerly route. The famous Donner Party is a prime example of how these attempts could prove disastrous.

In 1846 the Mormon leader, Brigham Young, and his Saints, headed west in search of a new homeland. This migration originated mainly from Illinois, and the city of Nauvoo, on the Mississippi River, near the intersecting borders of Iowa and Missouri. Eventually, Saints came from all over the world to join Brigham Young in building the City of Salt Lake.

Brigham Young owned one of the first boats built and commissioned for business on the Great Salt Lake. Launched in the Jordan River on June 30, 1854, the *Timely Gull* was built and skippered by Dan Jones. This 45-foot vessel was commissioned by Brigham Young to usher church cattle to and from Antelope Island. Its building was prompted by the rising of the lake level which made it increasingly difficult to move the stock to and from the island. Some say the boat was powered by horses that turned a treadmill, thereby turning a paddle wheel in the stern. This is a common belief among many maritime historians due to an article published in the *Deseret News*. However, this mode of propulsion either proved less than adequate, or never existed since the *Timely Gull* was known later as a sailboat.

MARITIME HISTORY BEGINS

Like most craft built later on the Great Salt Lake, the *Timely Gull* was most likely a flat-bottomed boat, low and wide, like a scow with a sharp bow or a ferryboat. A supply list ordered from the local store by the builder indicates the same. Among the items listed were hogging chains and fourteen gallons of tar. Hogging chains were common among vessels of this type to overcome the inherent weakness due to design, namely, lack of shear strength. The chains were run from stern and bow up over the top of a central post where they could offer support to the extreme ends of the hull to keep them from sagging (hogging). Also, the use of fourteen gallons of tar on a vessel of this size is good indication that she was all deck, with little or no superstructure.

The *Timely Gull* was lost in a storm on the southern end of Antelope Island after having been in service for only four years. The fate of this early vessel exemplified the lake's unpredictability, both in the need for the boat and in her loss, setting the tone for a struggle between humans and the lake that still continues today.

Henry Miller and his brother Daniel, who owned a sheep ranching operation on Fremont Island, constructed two other flat-bottomed craft between 1859 and 1862. Little is known about these early vessels except that they were simply called "scow" or "flatboat" and that the last survivor of the two was wrecked in 1876. That same year, the son of Daniel Miller, Jacob, hired Henry Barrot to design and build the fifty-foot, *Lady of the Lake*. The following is Jacob Miller's description of the vessel:

> A schooner with a flat bottom for running in shoal water. It was fifty long by about fourteen or fifteen feet wide on deck. There was a four-foot hold for carrying sheep under the deck and a cabin aft.

Jacob Miller's cousin, Seymour Miller later described the vessel in further detail:

> About fifty feet long and twelve feet wide, she carried two main masts, the largest one being about fifty feet high. She flew four sails, two main sails, and two jibs. . . she was a shallow water boat and when empty, would float in eight or ten inches of water.

In the mid 1880's, Judge U. J. Wenner gained rights to the only reliable water supply on Fremont Island, thereby gaining control of the island itself for practical use. Consequently, in 1886 the Millers were forced to move their sheep operation from the island that was once known by their name, and where they had succeeded for twenty-six years. Not long after an attempt to graze their stock on waterless Carrington Island, their sheep venture failed.

A few years after Judge Wenner moved to the island he acquired the abandoned *Lady of the Lake* which had been driven onto the western shore of Fremont Island in a bad storm. Wenner repaired the vessel and re-christened her the *Argo*. Judge Wenner, his wife and two children used the *Argo* as their link between the Fremont and the mainland. Surviving at least until 1909, and having changed hands again, the *Argo* was finally lost on the rocks at Promontory Point.

There was at least one other vessel built by the Millers, a seventy-five foot salt boat possibly named *Old Bob*. In addition to this, Jacob Miller built one last stock boat in 1879 for the Davis County Co-op. The best description of this vessel is that it was forty-feet long, sixteen-feet wide, sloop-rigged with a forward cabin and a wheel on the forecastle. There was also, reportedly, a pen aft for the stock that were loaded and unloaded over the stern. It is thought that Captain George Frary, a long time island dweller, later owned this boat and used it to transport the first dozen buffalo to Antelope Island in 1892, where they flourished.

Patrick Connor
Soldier
Explorer
Mariner

Patrick Connor came to the Salt Lake region as commander of a troop of army volunteers in 1861. He was charged with the task of subduing the Shoshone Indians, who were raiding the overland trail east of Fort Bridger and jeopardizing the movement of the mail. Previously, Connor had a varied career that included explorer, entrepreneur, civil servant, and ship's pilot. He was ambitious and daring, and he followed his convictions and opinions, risking the consequences, whatever they might be. While fighting the Indians in 1862, Conner became famous for his part in the Battle of Bear River, near Franklin, Idaho; a battle many historians now refer to as the Bear River Massacre.

In July of 1863 Utah's Governor Doty and Patrick Connor made a peace treaty with the Indians at Fort Bridger. With the "Indian problem" out of the way, Connor turned his attention to what he considered the "Mormon problem." Connor knew that the social and political strength of the Mormon people was wholly dependent upon their dominant numbers in the region. It was also his thinking that by simply drawing a large amount of Gentiles, or non-Mormons, into the valley, the Saints' power could be diluted. Turning his soldiers loose to prospect for gold was a strategic move that paid off. It wasn't long before the news of their rich mineral strikes reached far and wide. In Salt Lake City, business began to flourish, as did the Gentile population within the community. Merchants dominated East Temple Street and began to call it Main Street. Salt Lake City would never be the same.

In 1863 the first mining district (covering the Oquirrh Range) was established, and in 1864 Connor named the first Gentile town, Stockton, after his hometown in California. Before 1860, in Utah, the annual value of

Patrick Edward Connor
Used by permission, Utah State Historical Society

Photo no.12018

mineral production was less than $10,000. By 1870, it was $1.5 million, and by 1917, it was over 100 million dollars. Patrick Connor became known as the Father of Mining in Utah, and mining has since been a foundation of the state's economy.

Only a few years before Connor and his troops fought the Battle of Bear River, the federal government began laying the groundwork for the first transcontinental railroad. Congress realized the need to link the east with the west by rail and passed a bill issuing large grants of land and bond subsidies as enticements to prospective builders.

RAILROADS

The land allotted consisted of ten alternate sections per mile, or 6,400 acres per mile, along the entire length of new road built. The amount of the construction loan given to the builders, which took the form of a low-interest 30-year bond, depended upon the character of the terrain that was to be covered. From the California foothills west it was $16,000 a mile, over the less rugged mountains it was $32,000 a mile, and over the Rockies and Sierra Nevada range, it was $48,000 dollars a mile.

In 1863, the Central Pacific started to build eastward from Sacramento, California, and the Union Pacific started in 1865 to build westward from Omaha, Nebraska. As the railroads laid down track, the subsidies began to come in and with them came town lots and land sold. Land that was once desolate and worthless was made valuable as towns sprang up along the route. This was just the encouragement that the two railroads needed in building the new line. By blasting tunnels through solid rock and building immense wooden trestles through what were thought to be impassable gorges, the two railroads closed the gap.

While nearing the completion of the building of the railroad, a race ensued between the two competing work teams. So obsessed was each by the desire to acquire more land than the other, the two railroads ignored even the main objective: to connect. The grading parties, which were working a considerable distance ahead of the tracklayers, ignored each other as they passed. In many places the two grades were so close together that the temptation to blast each other with dynamite could not be resisted.

Ultimately, over 100 miles of parallel grading was completed before the government stepped in. The federal government decided to establish a predetermined destination for the linking of the two lines, fearing if they did not, there would be two transcontinental railroads within view of each other. The place selected was Promontory Summit, just north of the Great Salt Lake. As the railroads built toward each other, they were like two hungry machines consuming massive amounts of wood in the form of ties and telegraph poles. This created a boom in the market for these products, the bulk of which was found at the south end of the lake.

Patrick Connor, who had retired from the army in 1866 when the California Volunteers were mustered out of service, was not the type of person to sit idly by while others made their fortunes. Connor knew that the logical method of transporting the wood from the south end of the lake to the north would be by boat, so Connor

took to the sea once again. By 1868, he had two vessels, the 100-ton *Pioneer* and the 60-ton steamer *Kate Connor*, the latter, named after his daughter.

Surprisingly enough, it was actually a Mormon who built Patrick Connor's first vessel, the *Kate Connor*. Gammon Hayward and his family, who like many Saints, came to the valley in the spirit of gathering, left England in 1853, where he had worked with his father who was a boat builder. The *Kate Connor* was launched into the Jordan River on December 11, 1868, at a cost of $18,000. According to the *Salt Lake Daily Reporter* the vessel was fifty-five feet long, eighteen-feet wide, with a "flush deck" and a six by ten foot raised engine trunk four feet tall amidships. From this protrusion in the deck the shafts extended outward to the two paddle wheels on either side. This arrangement was said to leave considerable space in front and rear for freight. The boiler came from the Union foundry in San Francisco and the steam engine from Chicago.

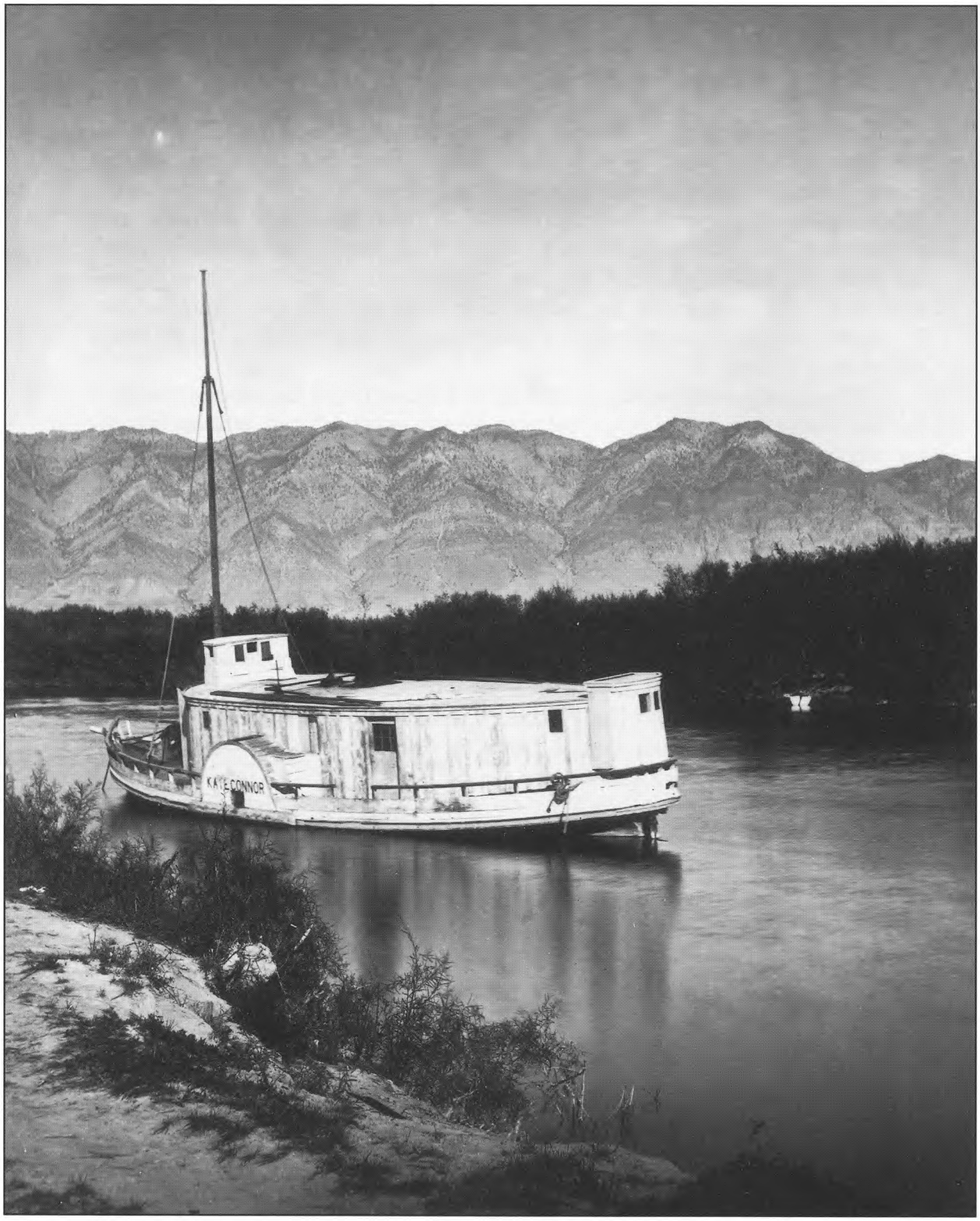
Photographs taken in May of 1869 by A. J. Russell, who just happened to be in the area, showed the *Kate Connor* had been already greatly altered since her launching only five months earlier. Where only a raised engine room existed previously, the vessel now had a deck level superstructure running almost the full length of the boat, approximately a three-foot tall stepped pilot house forward, and a privy over the stern.

Connor transported railroad ties and telegraph poles from the south end of the lake to Spring Bay, which lies on the very northernmost end of the Great Salt Lake. In so doing, he came to realize improved shipping could help his mining operation. So, in 1869, he added another schooner, the 100-ton *Pluribustah*, to his fleet. With his fleet, Connor hauled ore and freight from the south end of the lake to the north. He also blazed a path up the Bear River to the town of Corinne. The run from Lake Point to Spring Bay was most likely Connor's usual run, since all but one of his fleet used sail. Sail powered boats worked fine on the open lake but didn't handle as well in the confines of the lake's rivers.

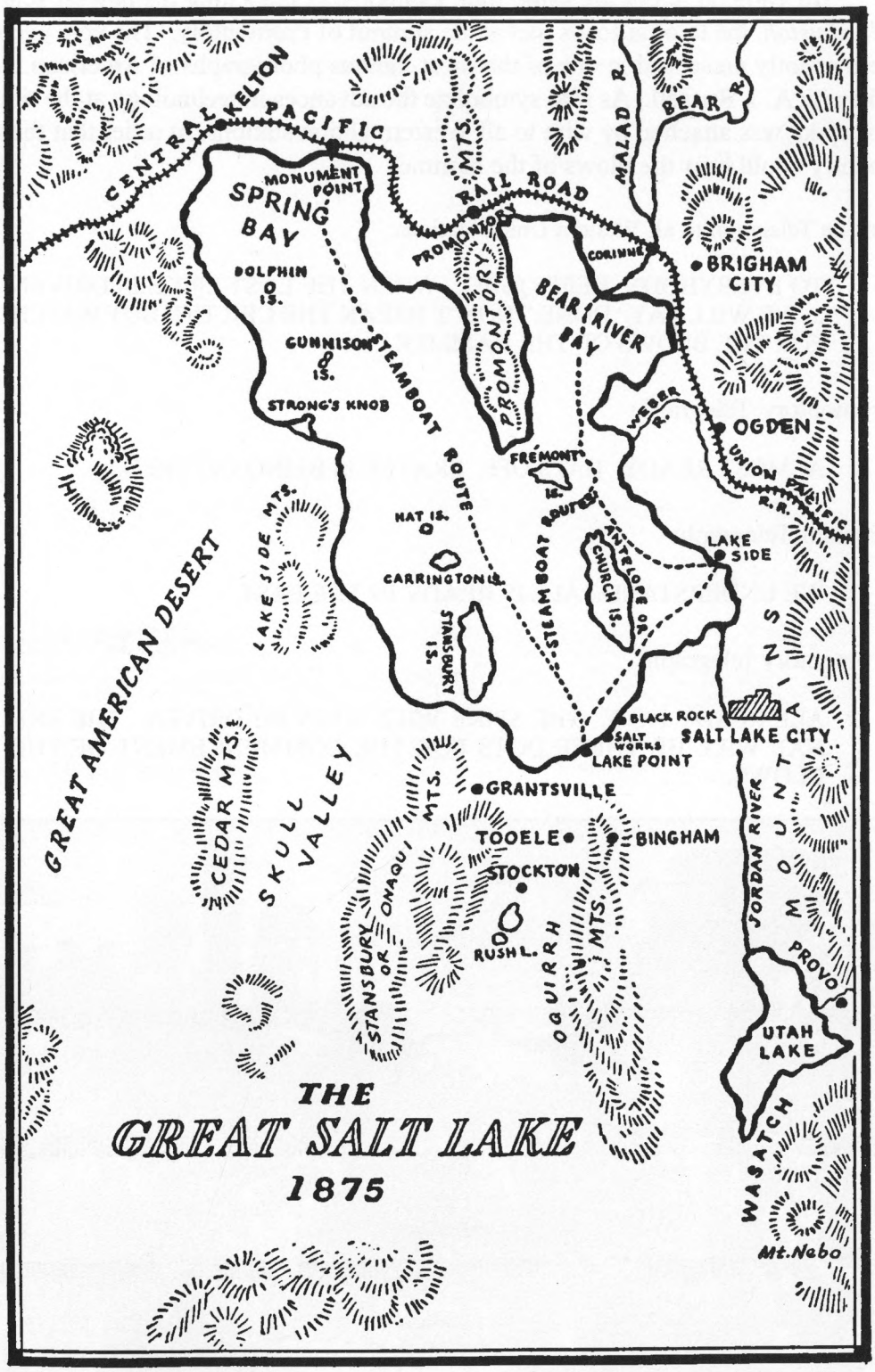
The daring run up the Bear River to Corinne was probably left up to the *Kate Connor*, which was said to be greatly underpowered. For this reason the *Kate Connor* was re-powered in 1870. Other than the *Kate Connor*, all of Connor's vessels appear to have been schooners. The schooner had the least complicated rigging, requiring fewer hands to sail it than other rigs.

Like many of Connor's early endeavors, shipping on the Great Salt Lake would dwindle and fail. By 1872, the *Pioneer* and the *Pluribustah* were no longer in Connor's service, and in March of that same year he sold the *Kate Connor* to Mormon bishop Christopher Layton, to be used by a Mormon co-op for ferrying stock to Antelope Island.

An early mariner on the lake named Captain David L. Davis, in an interview in 1909, gave the most accurate account of what became of some of Connor's fleet. Captain Davis claimed that the wreck of the *Pluribustah* laid within view of the tracks at Saltair, on the southern shore of the Great Salt Lake. He also claimed that the *Pioneer* was keeping company with the *Kate Connor*, rotting away in a boat graveyard at the mouth of the Jordan River.



The *Kate Connor* at anchor on the Bear River near the town of Corrine
The Andrew J. Russell Collection, the Oakland Museum of California



Early chart of the steam boat routes on the Great Salt Lake. Note Stansbury Island is disconnected from land.
Manuscripts Division, J. Willard Marriott Library, University of Utah

In 1869, at about the same time Connor was launching his newest schooner, *Pluribustah*, the two railroads met at the summit of Promontory. The epic event was permanently preserved in one of the most famous photographs of American history, taken by A. J. Russell. As if to symbolize the advances in technology at the time, the last spike was attached by wire to all Western Union stations, in order that the entire country could hear the blows of the hammer.

Omaha Telegraph to all Western Union stations:

> TO EVERYBODY: KEEP QUIET. WHEN THE LAST SPIKE IS DRIVEN ... WE WILL SAY "DONE." DON'T BREAK THE CIRCUIT, BUT WATCH FOR THE BLOWS OF THE HAMMER.

Promontory Telegraph:

> ALMOST READY. HATS OFF. PRAYER IS BEING OFFERED.

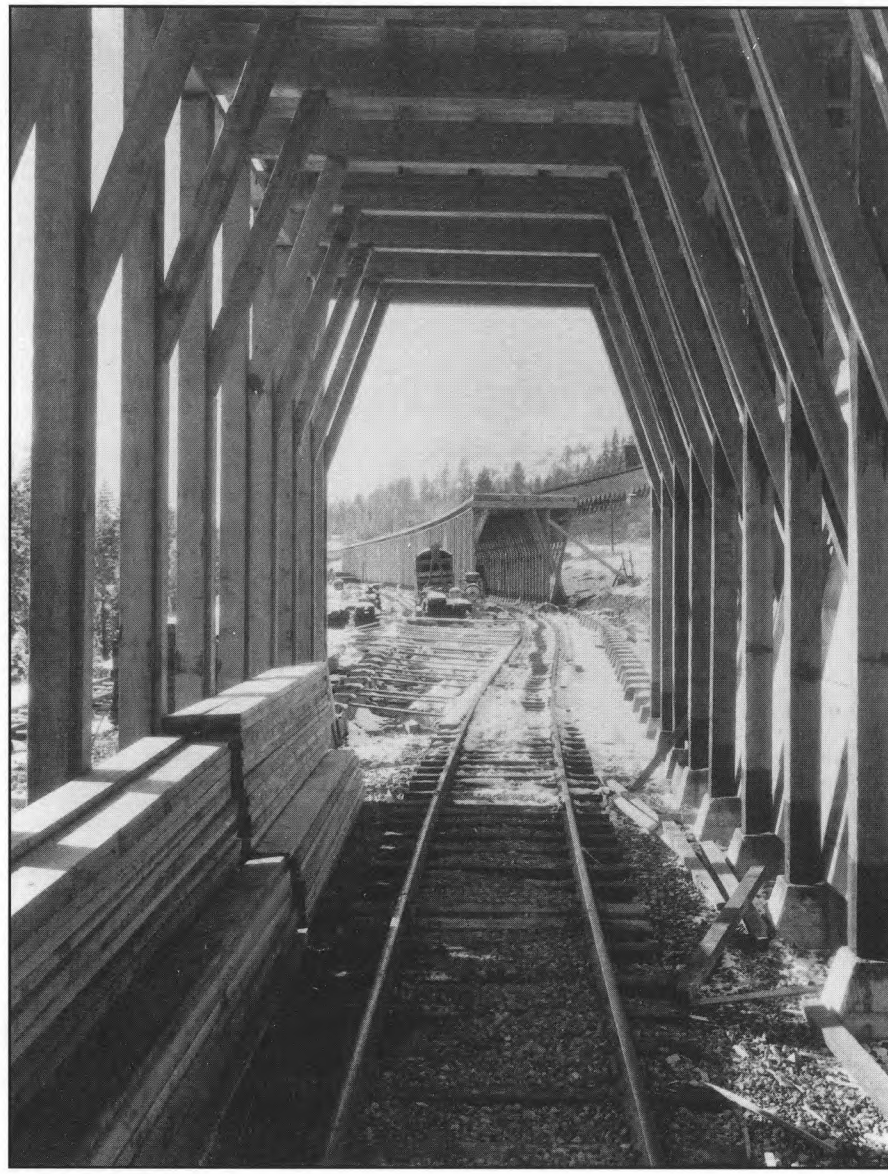
Chicago Telegraph:

> WE UNDERSTAND. ALL IS READY IN THE EAST.

Promontory telegraph:

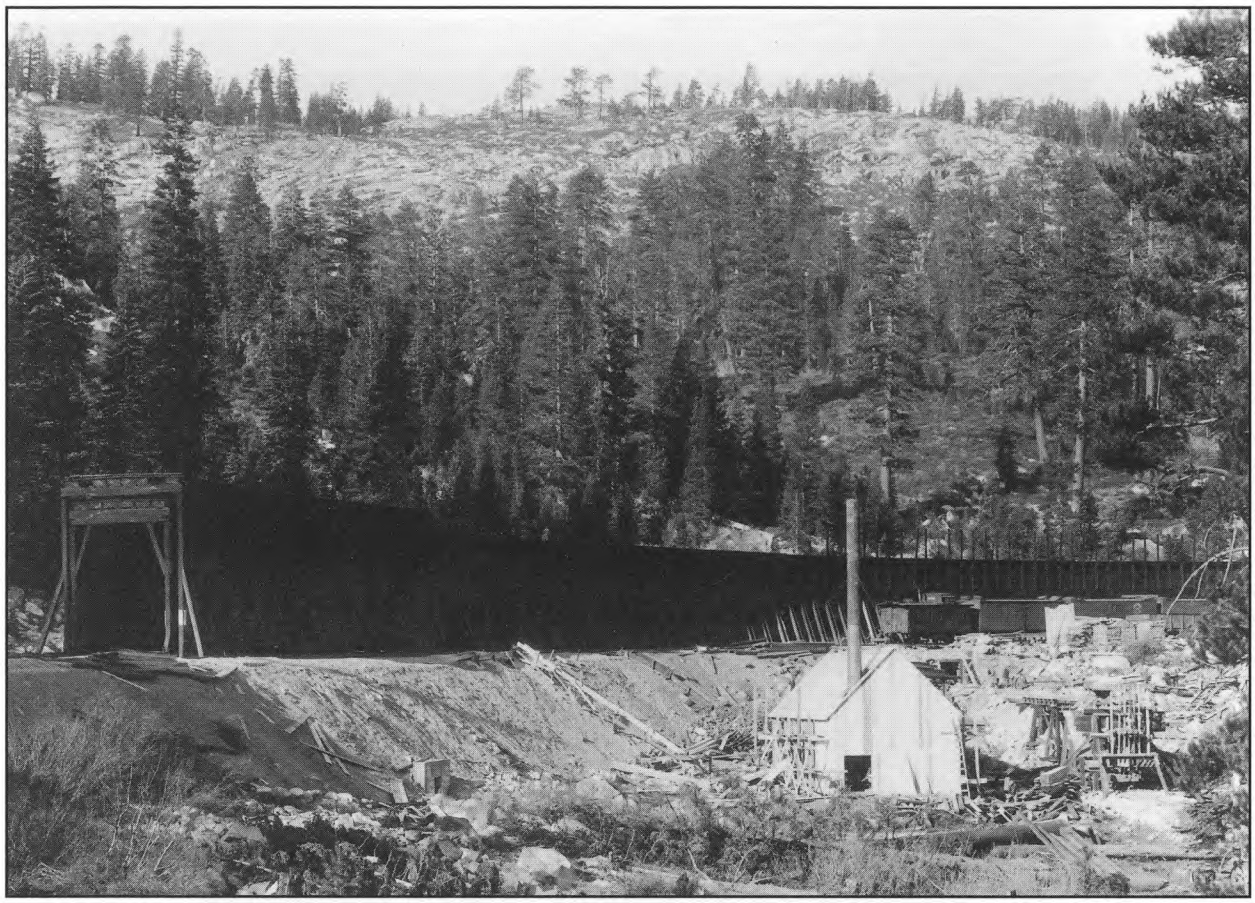
> ALL READY NOW. THE SPIKE WILL SOON BE DRIVEN. THE SIGNAL WILL BE THREE DOTS FOR THE COMMENCEMENT OF THE BLOWS.

And railroad history was made. In total, over 1700 miles of track was laid. Some 37 miles through the Sierra Nevada Mountains had to be covered by protective snow sheds that allowed trains to pass in winter.



2,500 carpenters and laborers used 65 million board feet of lumber to build 40 miles of snowsheds that wormed their way through the Sierra mountains. Snow fall through this area was too heavy to plow: on the west slope of the Sierra in Alpine country during the winter of 1906-07 over 73 feet of snow fell.
Southern Pacific collection, courtesy of Lynn Farrar

(left)
Union Pacific's Grenville Mellen Dodge, shakes hands with the Central Pacific's Samuel Montague, at Promontory, Utah.
Union Pacific Museum Collection No. 1-23



Snowsheds remained in the Sierras for many years until snow fighting equipment was powerful enough to remove snow from the tracks. By the 1950s only a few miles of snowsheds remained.
Southern Pacific collection, courtesy of Lynn Farrar

The Mormons took part in the movement of railroad ties from the south end of the lake to the north. Rather than build a vessel and fill it with wood, the Saints simply built a raft out of the very wood they wished to ferry. This raft (300-feet long, 16-feet wide) was pushed with poles along the shoreline to its destination.

The Mormons also played a role in the actual building of the first transcontinental railroad, grading through the ominous Echo and Weber canyons. The massive excavation required to get down to grade in Weber canyon was accomplished by laborious pick axing and blasting. Though the Mormons were disappointed that the transcontinental railroad hadn't gone directly through Salt Lake City, the movement of such an amount of difficult material will always stand as a tribute to the Mormons' contribution to the new railroad.

Weber Canyon, one of the most formidable obstacles along the right-of-way.
Used by permission, Utah State Historical Society, all rights reserved Photo no.

Laborers, recruited mostly from the Ogden area, working by hand on Weber Canyon.
Used by permission, Utah State Historical Society, all rights reserved Photo no. 808

A week after the ceremony at Promontory, the Mormons began building their own railroad — The Utah Central. This railroad ran between Ogden on the main line and the City of Salt Lake to the south, and was completed on January 10, 1870, linking the city to the rest of the nation.

Less than a year after Brigham Young drove the ceremonial spike that commemorated the Mormon's new Ogden to Salt Lake City railroad, the largest and most elegant steamer ever to grace the surface of the Great Salt Lake was launched.

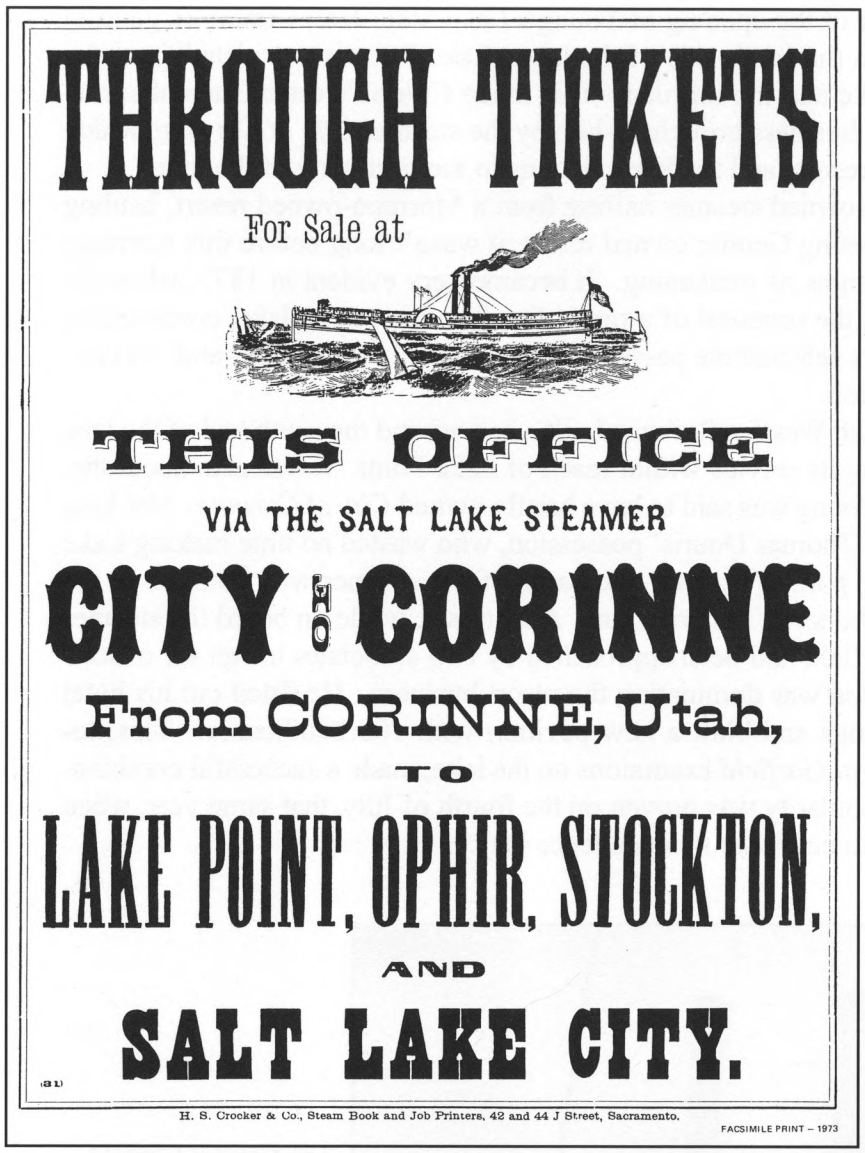
~The Steamer~ *City of Corinne*

With the town of Corinne on the path of the new railroad, and Connor having proven the Bear River (which runs by Corinne) navigable by a large vessel, a group of Corinne's leading businessmen decided the only missing element was a nice big steamer to carry on commerce with the south end of the lake — hauling ore, freight, and passengers to the railroad at Corinne. And so it was that the new steamer, *City of Corinne* was built on the banks of the Bear River next to the new town of Corinne, by the newly formed Corinne Steam Navigation Co.

Other than the ground she was built upon, it would appear that no aspect of the building of the *City of Corinne* was actually indigenous to Utah. Designed and prefabricated near Sacramento, California, all of her pre-sawn fir timbers, bolts, nails, and planks were shipped by rail to the town of Corinne and assembled by 36 shipwrights, machinists, and cabinet makers who also came from California. Her machinery was the most modern, manufactured by Girard B. Allen and Co. of St. Louis, and also rode the rails to Corinne. Though not overly built for an ocean vessel of her size, all indications that the *City of Corinne* was very well built for a lake boat are evident, from the close spacing and size of her double sawn fir frames to the thickness of her keelson and planks. Judging from the *City of Corinne's* 40,000 dollar finished cost, no corners were cut in fitting the vessel out either. Her three decks were laid out to optimize every possibility for her success; she had accommodations for 150 passengers and could seat 70 at dinner.

It is believed that the streets of Corinne were empty during the joyous hour of the launching on May 24, 1871, as the mayor christened the steamer, *City of Corinne*. At 130-feet in length, 28-feet wide and 300 tons, the impressive steamer slipped into the Bear River before a cheering crowd of onlookers.

It wasn't long before the new steamer departed on her maiden run, returning several days later with 45 tons of ore. For the next few weeks the steamer maintained a tri-weekly schedule meeting the transcontinental trains; but soon business began to fall off, and when she was barely meeting her expenses the scheduled runs were abandoned. Left with only an occasional load of freight or an excursion party, *City of Corinne* was soon declared a financial failure by her owners and was sold to H.Q. Jacobs and Co., a mining firm. In June of 1872, John Young's new resort Lake Side, near Farmington, became the homeport for the *City of Corinne*.



Historic advertising poster for the Great Salt Lake's passenger steamer, *City of Corinne*

Manuscripts Division, J.Willard Marriott Library, University of Utah

~Resorts~ The Early Years

Ever since humans began inhabiting the Salt Lake Valley they have been fascinated with the lake, for many reasons including how it affects buoyancy. The experience of floating like a cork, high out of the water, was a novelty that became very popular and drew people to the lake. It was also thought that the minerals in the water improved health. Regardless of the reasons for brining oneself, John Young saw an opportunity that the new railroad and this fascination presented, and capitalized on it. John Young, the third of Brigham Young's 25 sons, opened one of the first real resorts on the Great Salt Lake in 1870, and in doing so he started a trend.

Within the year of the opening of Young's Lake Side, Jeter Clinton (a gentile) opened Lake Point on the south side of the lake. Lake Point was isolated from the eastern part of the lake and the railroad. This made Clinton's establishment somewhat dependent upon business brought to him by the steamer *City of Corinne*, which ran between the two resorts and made excursions to the north end of the lake.

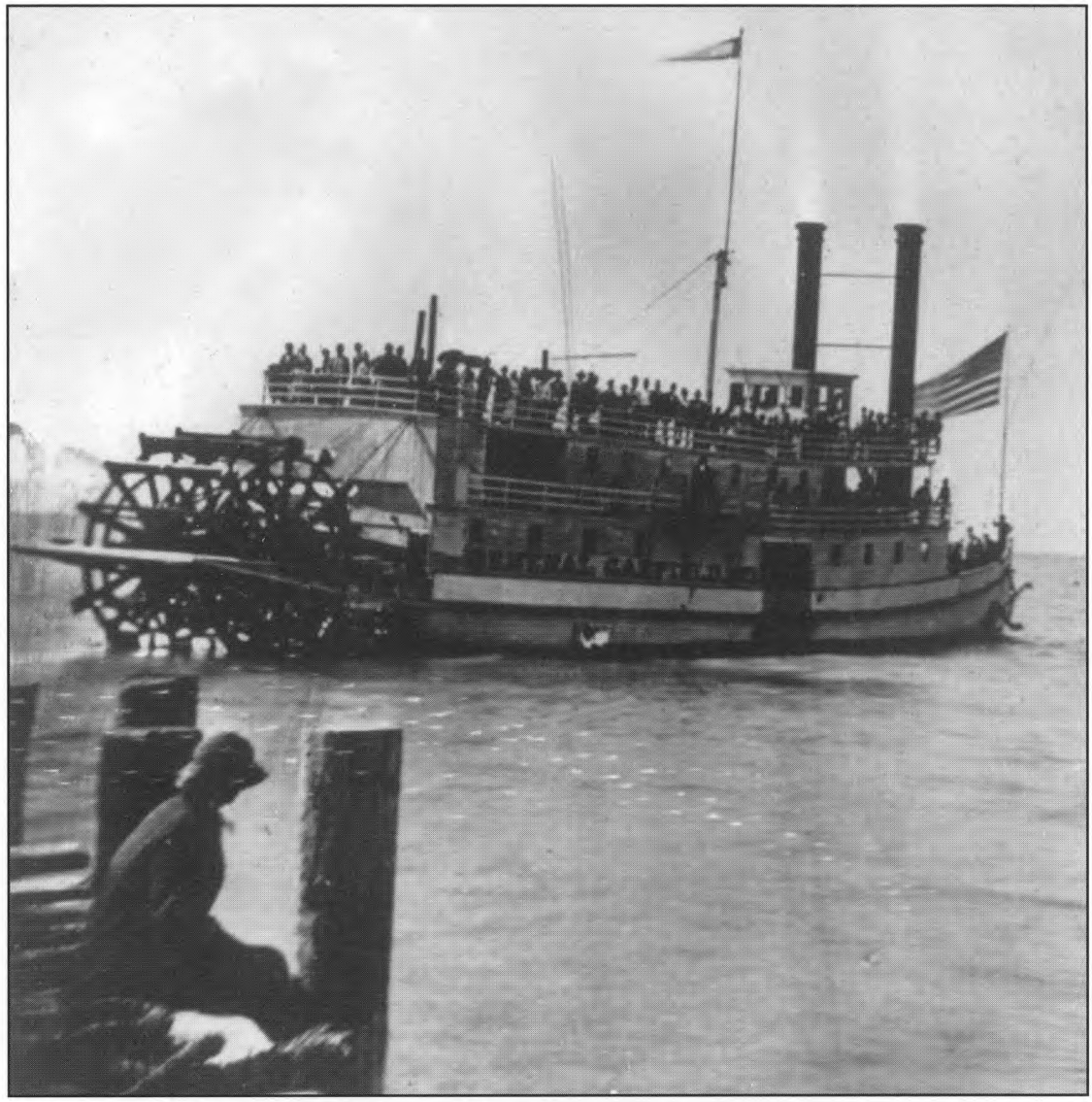
With a Gentile-owned steamer hailing from a Mormon-owned resort, hauling passengers to a competing Gentile owned resort, it wasn't long before this marriage of necessity showed signs of weakening. It became very evident in 1873, when the *Deseret News* blasted the proposal of a moon-lit excursion on the lake, condemning the way the organizers selected the passengers, and the risks to a tender and "vulnerable" female population.

In 1875, the Utah Western Railway built a line around the south end of the lake to Black Rock, putting its service within reach of Lake Point. It was also about this same time that John Young was said to have briefly owned *City of Corinne*. Not long after that it came into Thomas Douris' possession, who wasted no time making Lake Point his new hailing port. That year the name of the steamer was changed to the *General Garfield*, in honor of the president. Apparently, while on board the steamer three years prior, Garfield had been approached by two associates to run for office.

By 1876, Clinton was dominating the resort business. He fitted out his hotel with elegant furnishings and built a new pavilion with 100 bathhouses. This, together with the *General Garfield* excursions on the lake, made a successful combination. Lake Point's popularity was proven on the fourth of July, that same year, when 1500 people arrived to celebrate Independence Day.

The *General Garfield* formerly the *City of Corinne* during her glory days in the excursion trade business at Lake Point.

Photo no.983 (left)
Photo no.982 (right)



During this same period, H. J. Fawst opened a small resort called Black Rock, only a few miles to the east. Not much became of Black Rock during its first years. The newspapers at the time even describe the resort as being dilapidated, but in 1880, David John Taylor and Alonzo Hyde, son and son-in-law of Mormon President John Taylor, took over Black Rock and turned it into a respectable resort.

In 1881, Captain Thomas Douris bought 60 acres of land just west of Black Rock, from none other than Captain Patrick Edward Connor. Here Captain Douris anchored the *General Garfield* and built his own resort, which would become known as Garfield Beach. It was at this point in time that the *General Garfield*'s seafaring days were over. She was stripped of her machinery and paddle wheel, and used as a floating hotel, changing room for bathers, and a boathouse for the Salt Lake Rowing Club.


GARFIELD BEACH SALT LAKE

The viability of the resort industry on Great Salt Lake seemed assured. But in 1883, the Utah and Nevada Railroad took over Black Rock and by the mid 80's the once popular Lake Point was forced out by competition.

Captain Douris used two small steamers to work the excursion trade at Garfield Beach. Though these two vessels were vastly more profitable to operate, no boat would ever take the place of the *General Garfield*; she would always be known as the premier steamer of the Great Salt Lake. The two new Garfield Beach steamers were the *Susie Riter*, a side-wheeler, and the prop-driven *Whirlwind*. Both boats were of the forty-foot class.

Though more boats plied the waters of the Great Salt Lake, their usefulness and safety were still tenuous. David L. Davis, pioneer navigator wrote in his journal:

> 1886 - I made a trip with Captain Douris in his steamer *Susie Riter* to Bear River Bay on the Great Salt Lake returning to town on Saturday following. We found it necessary to take water on Fremont Island and on Promontory, causing much labor and delay. I am of the opinion that sail is the best for all purposes on the lake, or at least sail and steam combined.

(top left)
Stripped of her steam engine and paddle wheel, the old *General Garfield* sits idle at Garfield landing.
Used by permission, Utah State Historical Society all rights reserved, Photo no. 6180

(bottom left)
The Garfield Pavilion still under construction. David L. Davis' sailboat the *Cambria*, and what appears to be remains of the little side wheel steamer *Susie Riter* can be seen on the beach.
Used by permission, Utah State Historical Society all rights reserved, Photo no. 6198

Little *Susie Riter* was not long for the world. Only one or two years after being built she went down in a storm at her anchorage.

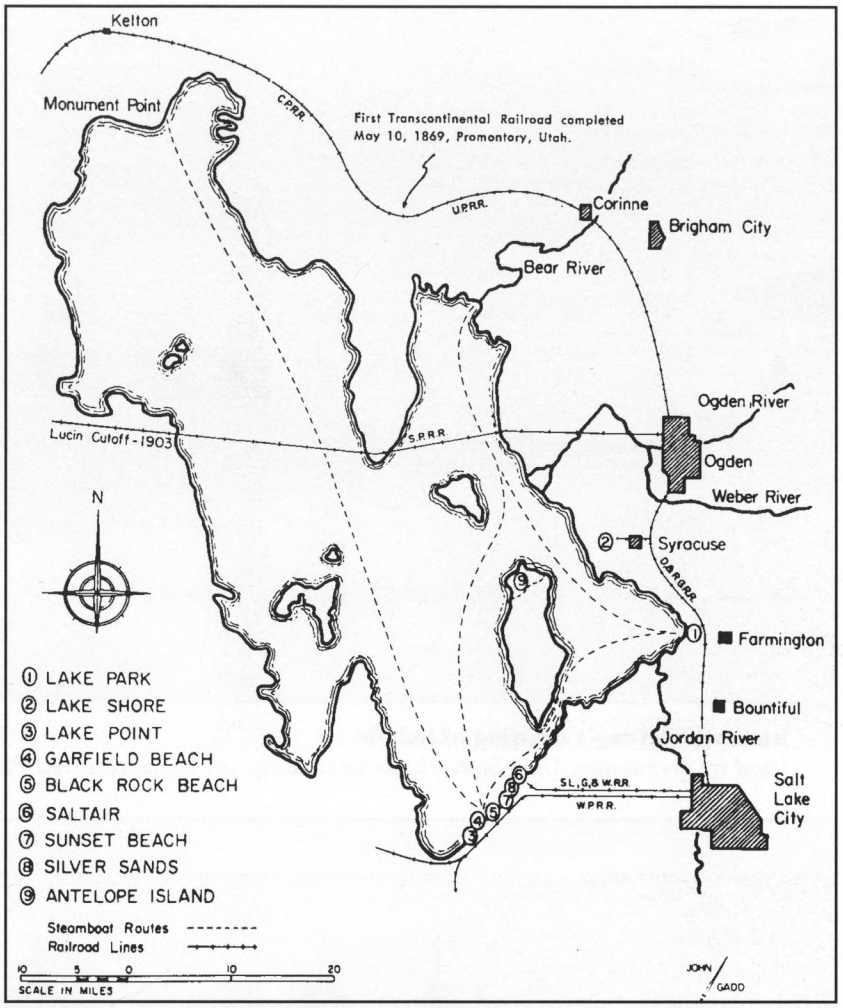
In 1886 the Denver & Rio Grand Railroad opened a new resort, Lake Park, and by 1887 Black Rock's owners took over Garfield Beach. On the east side of the lake yet another new resort, named Syracuse, opened its doors to the public.

Fierce Competition Among the Resorts

Backed financially by the railroad, the new owners of Garfield Beach went to work rebuilding the resort. Several hundred feet from shore they erected a 165-foot long, 65-foot wide pavilion constructed entirely upon pilings, and by 1890, Garfield Beach was monopolizing the resort trade. With a first class orchestra, elegant dressing rooms, restaurant and saloon, Garfield Beach for all practical purposes was the only resort on the lake. This monopoly was only to be savored for three years, because in 1893, Saltair, the largest and most astounding of all the resorts, would open to the public.

The old *General Garfield* and the new Garfield Pavilion
Used by permission, Utah State Historical Society, all rights reserved, Photo no. 6184

Most likely, the steamer *Whirlwind* at Garfield, about 1890. Note the depth of the water near the bow of the boat.
Used by permission, Utah State Historical Society, all rights reserved Photo no. 6193

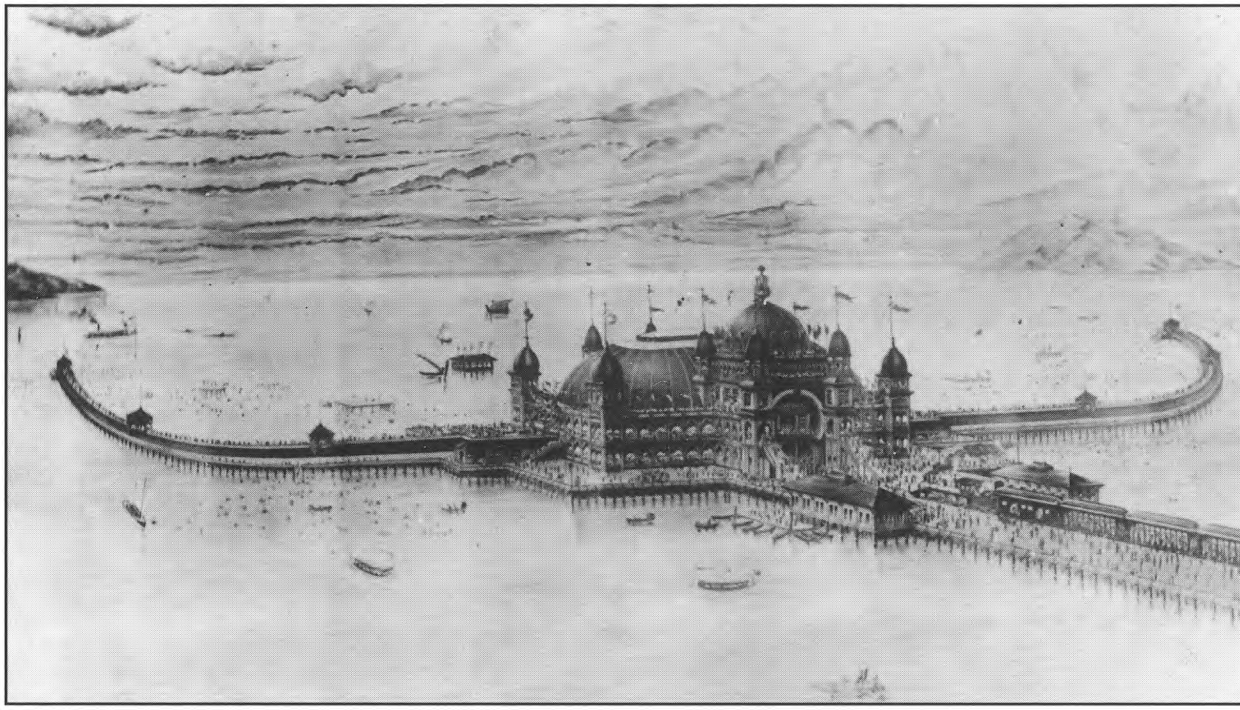


Map of various resort locations along the shore of the Great Salt Lake
Used by permission, Utah State Historical Society all rights reserved Photo no. UHQ 36:3

The builder of this new resort was the Saltair Beach Company, organized in 1891 by Mormon Church officials. The Church owned the controlling 50 percent, and Mormon businessmen owned the remaining 50 percent.

Saltair was built on the south shore, six-miles east of Garfield Beach. Both resorts were built out on the lake, away from shore. To go swimming the patrons merely descended a stairway to the water. The real novelty of Saltair was its immensity and architectural beauty.

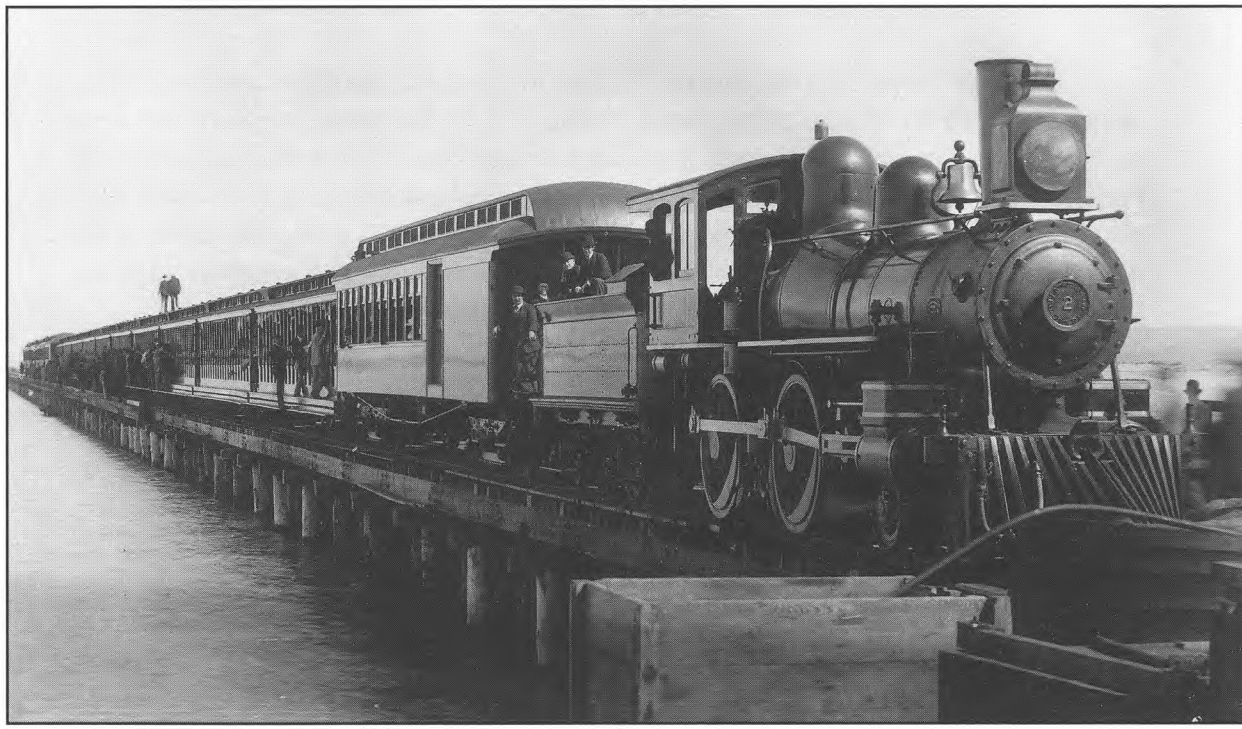
Richard Kletting, one of Utah's most well known architects of the time, designed Saltair. Kletting designed other important buildings in the state, including the Utah State Capitol Building. Having been blessed with the opportunity to design a project with no restrictions to the imagination, Kletting obviously used his to the fullest. The entire structure looked somewhat like a huge scorpion. The bathhouses curved out into the lake forming the claws; the main body was the entrance to the pavilion with its massive dance floor that could accommodate thousands, and the tail ran up onto the shore serving as a 4,000-foot approach for the train that brought people out onto the lake.



Richard Kletting's drawing of Saltair
Used by permission, Utah State Historical Society, all rights reserved Photo no.6289

Saltair, not long after construction in 1893. Notice the floating dock extending from the northern arm of bathing rooms, most likely the landing place of the *Tulula.*
Used by permission, Utah State Historical Society, all rights reserved Photo no.6293

Thought to be the largest in the world, Saltair's dance floor could accommodate literally thousands. *Used by permission, Utah State Historical Society, all rights reserved Photo no. 6-275 #521(22886)*



The Saltair Special as it brings patrons some 4000 feet out onto the lake.
Photograph of the Saltair Special, copyright by Intellectual Reserve, Inc., Courtesy of the Historical Department, Used by Permission

The train was purchased for the sole purpose of taking people from Salt Lake City to the resort and back. It was called the Saltair Special and ran on a regular schedule going to and from the resort every 45 minutes, the last train leaving Saltair at midnight. One can only imagine the hoards of people who flocked to the resort during the summer-long season, taking advantage of all Saltair had to offer. And as resorts on the Great Salt Lake go, Saltair had it all, including steamboat excursions.

The *Tulula*, skippered by Captain Charles S. Wilkes, was Saltair's only steam boat at the time the resort opened. This little steamer ran on a regular schedule all day long, making three-mile excursions out into the lake. On Sunday mornings the *Tulula* would connect with the 10:15 train for an excursion to Antelope Island. By all accounts Captain Wilkes and the *Tulula* were doing a fantastic business. The lack of steamboat excursions elsewhere on the lake probably helped. By 1892 no mention of excursions at Garfield Beach were printed in the *Deseret News*, only rowboats and a rowing club. Nevertheless, at Saltair, Wilkes was hauling boatload after boatload, at 50 cents a head, 75 cents for the Antelope Island run.

June 24, 1893 - *Deseret News*

The steamer *Tulula* is doing intense business running until ten p.m. Captain Charles Wilkes' smile has broadened eleven inches.

June 26, 1894 - *Deseret News*

Colonel Henry Page, who purchased an interest in the *Tulula,* is now the Captain of the Saltair steamer. Wilkes is Purser.

It was at about this time that the resorts on the east side of the lake were experiencing the effects of a blue sticky mud, brought on by the hoards of people walking on the beach. Apparently the sand was just a veneer that covered the beach near the water's edge, which had been exposed due to the nearly steady drop in the lake level since 1873. In an effort to cover up the mud the resorts hauled sand in from out of the area, but the public turned their attention to the clean beaches on the south end of the lake.

The *Tulula* ran for only the first few years following Saltair's opening. One must surmise that the steady drop in the lake level was the only reason to abandon such a gold mine. When Saltair was built, the average depth under the main structure was approximately four feet. This depth is marginal for a conventionally built 40-foot boat, which the *Tulula* most likely was.

During the construction of Saltair, there was concern that the lake might be too deep near the pavilion for swimming, at the high water season. That was not to be the case, however; in the years that followed the level of the lake continued to drop much the same way it had since 1873. The disappearance of the *Tulula* was only the first clue as to what would follow.

By 1902, bids were being accepted for the possible building of a huge retaining wall around the entire pavilion and bathhouses at Saltair. This wall would keep the water within at a constant level by pumping water from the lake, which by this time had left the pavilion sitting high and dry. The idea was abandoned because the bids for the job were simply too high. It was estimated that it would cost somewhere in the neighborhood of two million dollars to complete the project.

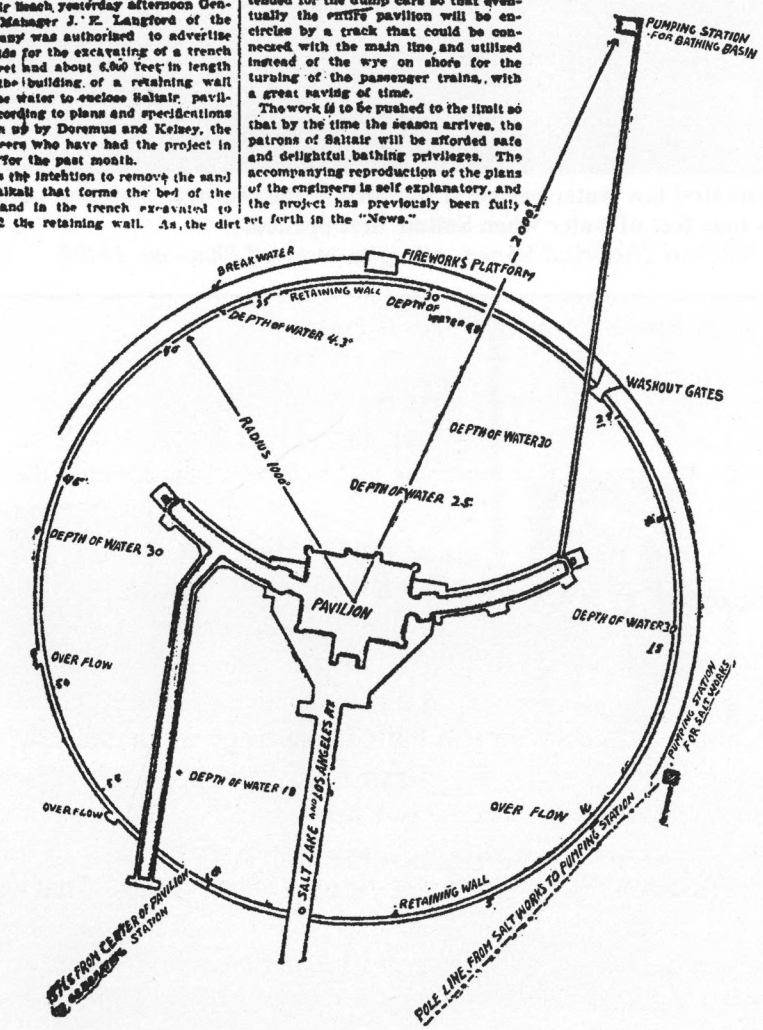
GOOD BATHING AT SALTAIR NEXT YEAR

Bids Asked for the Construction of the Retaining Walls Which Will Form One of the Biggest Artificial Swimming Pools in America.

Following a conference which was held by the executive committee of Saltair beach yesterday afternoon General Manager J. E. Langford of the company was authorized to advertise for bids for the excavating of a trench 4x7 feet and about 6,000 feet in length and the building of a retaining wall for the water to enclose Saltair pavilion according to plans and specifications drawn up by Doremus and Kelsey, the engineers who have had the project in hand for the past month.

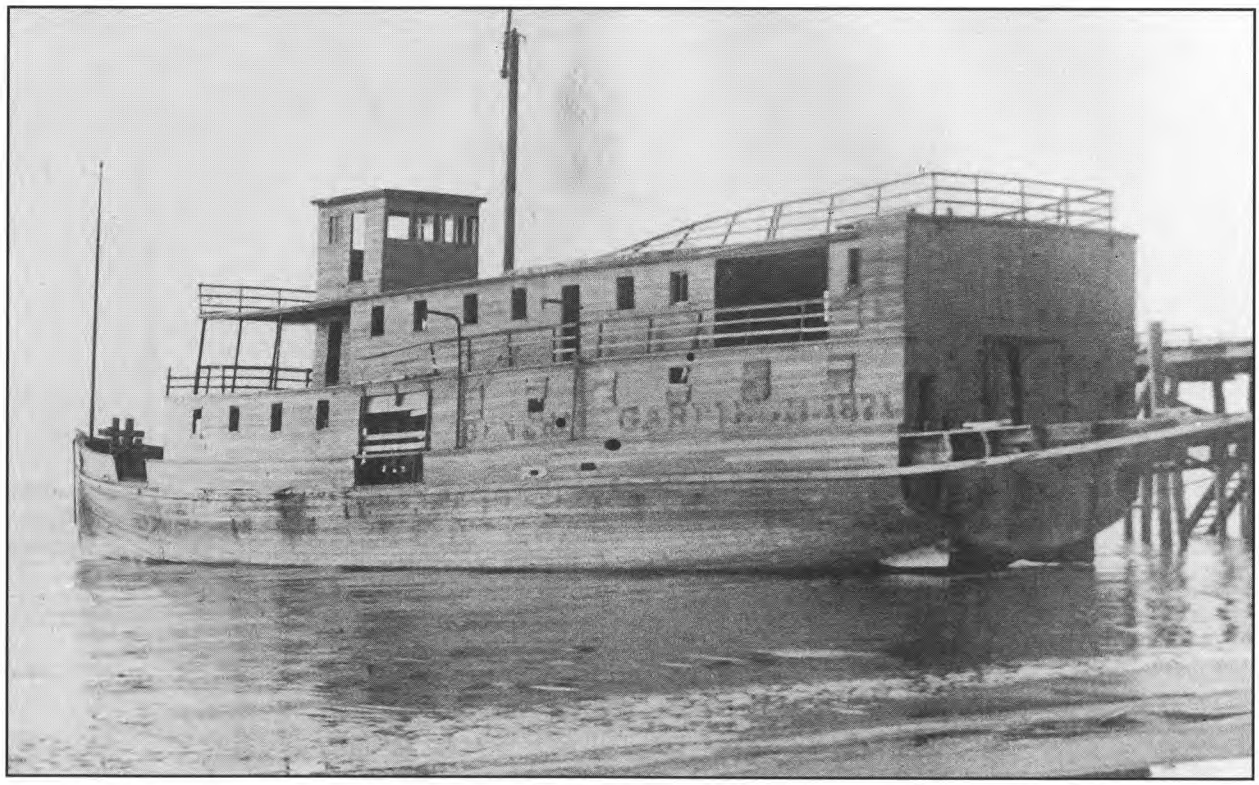
It is the intention to remove the sand and alkali that forms the bed of the lake and in the trench excavated to build the retaining wall. As the dirt is dumped upon the clay subsoil to the required heighth the tracks will be extended for the dump cars so that eventually the entire pavilion will be encircles by a track that could be connected with the main line and utilized instead of the wye on shore for the turning of the passenger trains, with a great saving of time.

The work is to be pushed to the limit so that by the time the season arrives, the patrons of Saltair will be afforded safe and delightful bathing privileges. The accompanying reproduction of the plans of the engineers is self explanatory, and the project has previously been fully set forth in the "News."



November 4, 1903 *Deseret News*

The Pavilion during the first low water period at the turn of the century. Note the sand showing below the structure. There was four feet of water when Saltair first opened.
Used by permission, Utah State Historical Society, all rights reserved Photo no. 16498



The dilapidated *General Garfield* not long before her superstructure was blown off during a storm in 1902.
Manuscripts Division, J. Willard Marriott Library, University of Utah

July 20, 1902 - *Deseret News*

> The old boat *Garfield* and formerly *City of Corinne* is no more - it has been on the ragged edge of dissolution for some years, and an impromptu hurricane the other day blew the superstructure to pieces, leaving only the damaged hull as a reminder of the once noble vessel.
>
> The destruction of the old boat is the disappearance of another land mark of early days. Captain Douris, now deceased, was brought from the Mississippi River to command the boat, and he remained here until his demise. Captain Thomas Douris replaced Captain S. Howe as skipper of the *City of Corinne* within the first year of her service.

It was in 1903, that Saltair's owners decided, if they could not bring the lake to the resort than they would bring the resort to the lake. This was done by moving 400 bathhouses from the south arm, that were closer to shore, and attaching them to the north arm, which extended further out into the lake. The 400 bathhouses totaled some 1400-feet in length and had to be moved in 100-foot sections. Progress was slow, each section being moved only 50-feet per day. Luckily, the lake didn't fall much below that point during this particular low water period. In 1904, there was talk of moving Saltair in its entire to Antelope Island:

January 22 1904 - *Salt Lake Tribune*

> It is evident that something more than a mere makeshift will have to be undertaken if we are to save this city the great renown brought to it by the delights of bathing in the briny waters of the lake. To scoop out a pond at Saltair would not be as good as to have a tank close to town and pump the water into it. Surroundings at Saltair as at present are both unsightly and discouraging. With the long reaches of waterless and odorous flats. Something radical is needed and the change should be undertaken with as little delay as possible.
>
> Of course as has been suggested it would cost a good deal of money to take down the structures at Saltair and move them over to the island; but the first thing the management knows, it is going to be a costly business to leave them where they are. And to dredge out a broad avenue for bathing, connecting with the main body of the lake would cost a lot of money, too.
>
> It seems to be the general opinion that the solution of the whole question is to be found only in the removal of the resort to the west shore of Antelope Island. A location could undoubtedly be found there which would fill every needed requirement - a good beach, plenty of depth of water, and space on the adjacent shore to erect all the needed buildings for the resort itself, and also for summer residences for those who might wish to erect them. This later feature had begun to be a feature of attractiveness at the resort at Garfield before it failed, and it would add much to the desirability of any resort which might be established.

It is believed that in 1904 Garfield burned, both the resort and the steamer, or what was left of it. The charred remains that were found on the south shore of the lake during the low water period in the late 30s proved the likelihood that the *General Garfield* burned. Surprisingly, the precise date of the incident eludes history; usually there are records of such a major event. Efforts to unravel this mystery included viewing each and every page of the *Ogden Standard* newspaper from 1902 through 1906, unfortunately, revealed nothing.

Another curiosity about the disappearance of the historical steamer is the repeated statement that the Garfield pavilion burned to the water's edge. Research on estimated water levels around pavilions on the Great Salt Lake and their relation to accurately dated photographs revealed that most likely there was no water around the Garfield pavilion in 1904, having dropped 9 feet since it was built. Perhaps the accurate account appears in Dale Morgan's book *The Great Salt Lake* where he states that in 1904 both the pavilion and steamer were razed to the ground. That same year, facing up to the ongoing dilemma of owning a resort that sold liquor openly, the Mormon Church sold its controlling shares of Saltair to private individuals.

In about 1907, after the lake level raised a full two feet above that of the time of Saltair's amputation, a 65-foot paddle wheel steamer named the *Vista* entered into the excursion trade at Saltair. The *Vista* had a vivid past of her own. Originally named the *City of Moab*, she was launched into the Green River in 1905 from the banks where she was built. At that time she was 55-feet long, 20-feet wide and was fitted with twin 30-hp gas engines that drove duel propellers. This boat was the brain child of John J. Lumsden, who believed that it was possible to haul passengers down the Green River to the Colorado and then up the Colorado to the city of the boat's namesake, Moab, Utah.

Though the vessel had only a 14-inch draft and the propellers were tucked up inside the hull, the *City of Moab* was stranded countless times on sand bars during her first run down the river. Each time she was stranded, it took great effort to free her. When they finally made their way to the Colorado strong currents turned them back; the twin engines were unable to muster enough power to move the cumbersome craft up the river.

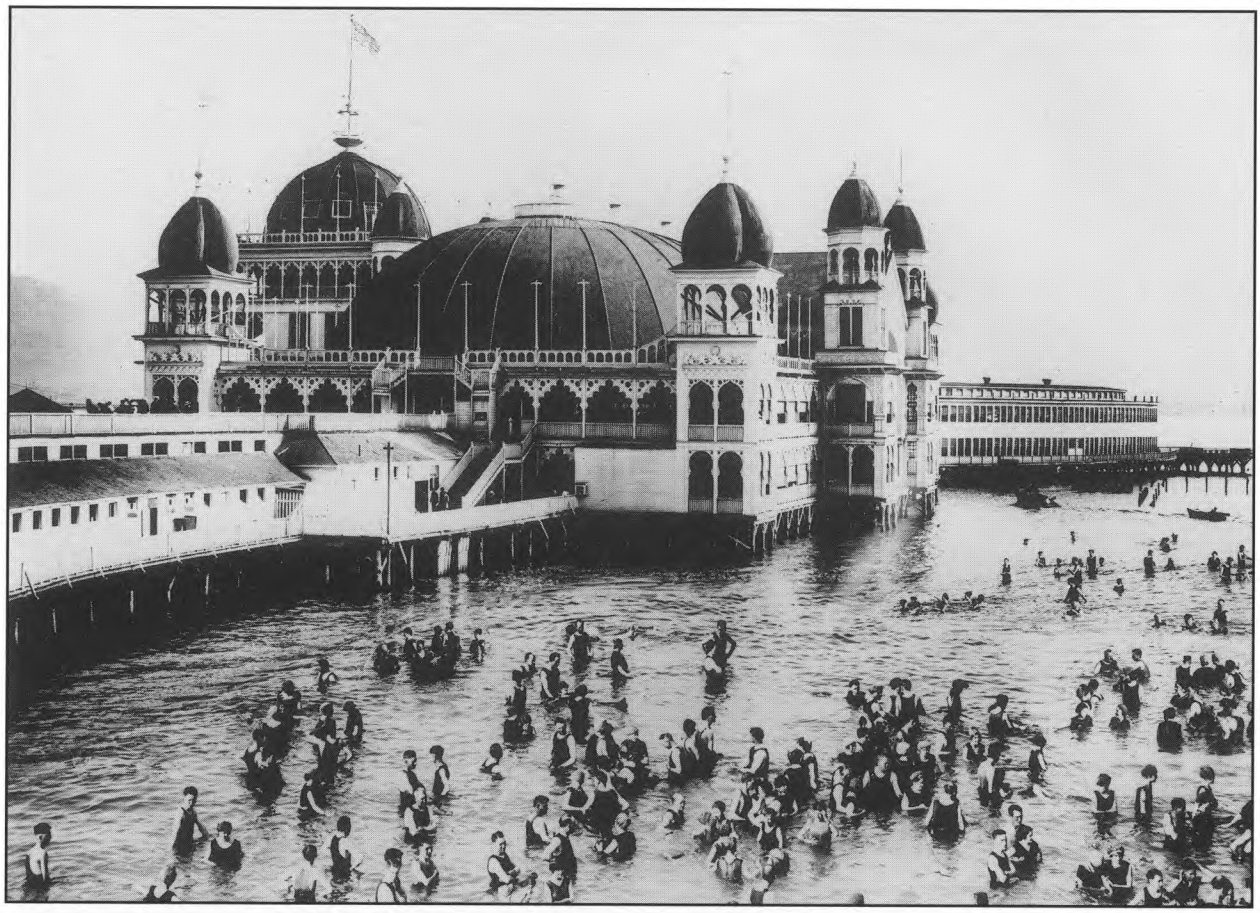
Still believing in the possibilities of his Green-Grand River and Navigation Company, Lumsden completely rebuilt the *City of Moab*. On August 6, 1906, sporting a new name, ten added feet in length and a steam engine with a paddle wheel, Lumsden's vessel departed on its voyage down the Green River once again. Although stripped of her twelve sumptuous staterooms to offset the added weight of the steam engine, the new *Cliff Dweller* was no more successful than the *City of Moab* in salvaging the dreams of John Lumsden. The *Cliff Dweller* was sold to Seeg Miller in the spring of 1907, disassembled and shipped to the Great Salt Lake where she had a far more successful career as an excursion boat named the *Vista*.

Two years after the arrival of the *Vista* the lake regained the level it had been when Saltair was built. By 1924, Saltair had enjoyed a decade and a half of wonderful lake levels, lulling everyone into believing that the years to come would be equally

The Green-Grand River & Navigation Company's first and last steam boat the *Cliff Dweller,* formerly the *City of Moab*.
Used by permission, Utah State Historical Society, all rights reserved Photo no. 6326

bright. Unfortunately, the brightness was of the darkest kind, for a fire that could be seen as far away as Salt Lake City swept Saltair on April 25, 1925. The fire had started while the workers were getting the resort ready for another anticipated record-breaking season. The bathing pier and beach offices were spared, but the grand pavilion was gone.

By 1926, the task of rebuilding Saltair had begun. Unfortunately, 1925 marked not only the burning of Saltair, but also the beginning of another drop in the lake's water level. By 1935, the lake had dropped to a new low, leaving the new pavilion sitting more than a half mile from shore surrounded by stinking mud flats. Still, it seemed nothing could discourage Saltair's owners from getting their patrons to the shore of the lake. They decided that if they couldn't bring the lake to the resort, and they couldn't bring the resort to the lake, then they must bring the bathers to the lake. And so, a miniature train that ran the bathers out to the water's edge was installed.



(above)
Saltair during its second high water period. The ship cafe seen on the right was added in 1909 and was said to be large enough to accommodate almost a thousand people.
Used by permission, Utah State Historical Society, all rights reserved Photo no. 6326

(left)
One of the last images of Saltair
courtesy of Steven R. Borstadt

New Saltair, "bigger and better than ever". As the water drew away from the resort new attractions were added and old ones replaced.
Used by permission, Utah State Historical Society, all rights reserved Photo no. 6291

Panoramic view of the second Saltair. In the background can be seen the tracks of the miniature train; beyond that the waters edge.
Used by permission, Utah State Historical Society, all rights reserved Photo no. 6285

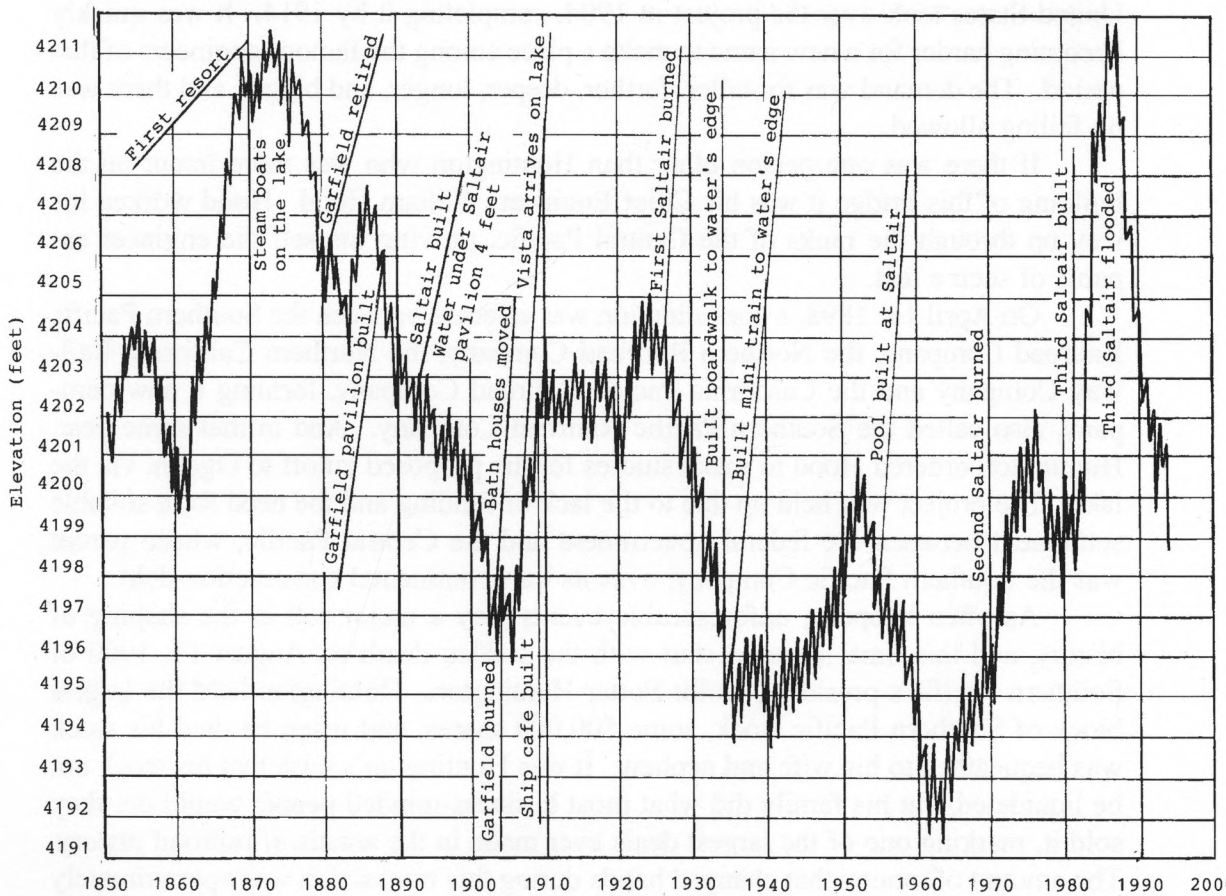
Though 1940 marked an upswing in the lake's level, the water hardly approached the original level when Saltair was built. Water level peaked in 1952, and then plummeted to even below that of 1935, a low that hadn't been seen in over a hundred years. During this downswing in 1955, Saltair's owners realized that they were faced with no alternative but to bring the lake to the resort. A five and a half acre lake was built just west of the pavilion capable of holding 10,000 people in 7 million gallons of water. However, this quarter of a million dollar renovation, proved to be only a last ditch effort, for Saltair had fallen into disrepair and was no longer making money. The resort opened its doors for the last time in 1958, and in 1959, the resort was given to the state of Utah. The shore of the lake was nearly a mile from the pavilion. The battle was finally over and nature had won. In 1970, exactly 100 years after John Young built the very first resort on the lake, an arsonist's fire took all but the memory of Saltair.

Another attempt to bring back the magic of Saltair was made in the early 1980's but was thwarted by the lake almost immediately. Historically the lake had left pavilions sitting high and dry, but this time it was not to be the case. Built from a steel airplane hanger and concrete, the nearly completed pavilion was impervious to fire, but was flooded out by extremely high water. The high water continued throughout the mid 80's and the new resort was forced to close. It now stands on dry ground, the lake having receded again, hardly a monument to the beautiful Moorish pavilions of the past, but a solid reminder of those early, more buoyant times.

2

THE LUCIN CUTOFF AND ITS WORK VESSELS

The hydrograph illustrates that lessons were hard learned in regards to the building of resorts along the gradual shores of the Great Salt Lake, and that the pavilions spent more time away from the water's edge, than with water surrounding them and the excursion vessels tied at their docks. The decline of the lake level spelled doom for the resorts and their boats, but oddly enough, it was this lack of water and the continued decreasing lake level that drew the attention of another group of individuals who became intent on putting vessels on the lake for a different purpose.



HISTORICAL HYDROGRAPH

Looking at the graph from 1870, to the turn of the century, one might surmise that the Great Salt Lake was in the process of drying up altogether. Such was the opinion of many people at the turn of the century, among them C. P. Huntington, president of the Southern Pacific Railroad Company. It was Mr. Huntington's belief that with the increasing consumption of the eastern tributaries by agriculture, the water level would continue to decline, and hence, the time was ripe for building the long anticipated bridge smack dab through the middle of the Great Salt Lake.

Ever since the first two railroads cut a path across the United States, engineers had dreamed of a time when a mighty bridge would span the lake, but funds, technology, and enough traffic to warrant such an enterprise were lacking. As the railroads grew in terms of size, power, and technological advancements, the feasibility of such an undertaking also increased. The attitude at the turn of the century was to BUILD: and build almost regardless of costs. The loss of human lives was often included as anticipated expenditure, and all budgets could be over-run without alarm.

The Lucin Cutoff

Incredible engineering feats had been accomplished, fueling the race to greater achievement: the railroads had joined east to west, the Suez Canal and the Brooklyn Bridge were complete. The French were struggling with the Panama Canal and the United States took over the project in 1904, completing it by 1914. It was quickly becoming harder for a new name to make a place among the famous engineers of that period. The demand was for taller, further, deeper, longer, and bigger, and there was no failing allowed.

If there was one person other than Huntington who was more intent on the building of this bridge it was his Chief Engineer, William Hood. Hood worked his way up through the ranks of the Central Pacific, proving himself the engineer capable of such a feat.

On April 14, 1898, a consolidation was effected between the Southern Pacific Railroad Company, the Northern Railroad Company, the Northern California Railway Company and the California Pacific Railroad Company, forming a new company, also called the Southern Pacific Railroad Company. And in that same year, Huntington ordered Hood to make studies for the proposed cutoff to Ogden, via the lake. The project was held up due to the lack of funding and the need for a suitable settlement between the federal government and the Central Pacific, whose parent was the Southern Pacific Company, over its transcontinental construction debt.

As often happens, unforeseeable events play a major roll in the shaping of history, and this time it would start with the sudden death on August 13, 1900 of Southern Pacific's president, Collis Potter Huntington. Huntington held the largest block of Southern Pacific stock, some 500,000 shares, and when he died his stock was bequeathed to his wife and nephew. It was Huntington's wish that his stock not be liquidated, but his family did what most business-minded people would do, they sold it, marking one of the largest deals ever made in the annals of railroad history. The amount of money that changed hands during this transaction was approximately

70 million dollars; but even at that, what really made this deal particularly significant was that the Edward H. Harriman Syndicate bought up the stock.

Harriman was still active as chairman of the executive committee for the Union Pacific Railroad, the company that had built west to Promontory. By acquiring a controlling portion of Southern Pacific stock, the Union Pacific gained control of a fierce competitor. But more importantly, they gained control of the Central Pacific, whose parent company was the Southern Pacific Company. This business tactic unlocked the gate from east to west for free flow of traffic. Undisturbed by conflicting interests, one railroad company evolved, eventually leading to one of the largest anti-trust lawsuits in history between the government and the Southern Pacific Company. The result was a Supreme Court decision decreed on June 30, 1913 for Union Pacific to sell all its Southern Pacific stock.

On September 26, 1901, while still active as chairman of the board for Union Pacific, Harriman assumed the role as president of the Southern Pacific Company. Harriman immediately set out to make the Southern Pacific and the Union Pacific the best railroad in the nation. He improved the rail line itself by removing as much curvature and grades from the tracks as possible. Most of the trouble was on the Southern Pacific lines, Harriman having already greatly improved the Union Pacific lines during his prior three years as chairman. One of the worst sections was on the Central Pacific line between the California-Nevada border and Ogden.

The arduous pull through the steep Sierra and Promontory Mountain Ranges was something that the railroad wanted to avoid. Some grades in Utah could only be climbed after breaking the trains down into shorter sections and using helper engines. The heavy freight trains required as many as three engines. A normal passenger train had to be broken down into three sections, each requiring two engines to pull a train over Promontory. In addition to the 1,515-foot climb, there were enough curves in the track to turn a train around eleven times. All this contributed to making it expensive to maintain locomotives and difficult to keep the track in good shape. But most expensive of all was the time it took, and Harriman knew that when it came to moving freight and passengers, time was money.

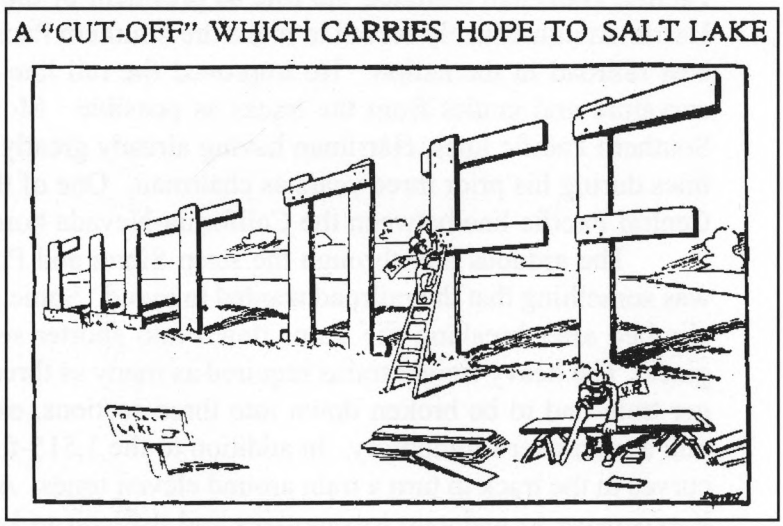
Southern Pacific decided that this section of track between Ogden and the Utah-Nevada border was in need of a cutoff — a more direct route between the station of Lucin just east of the Nevada border, and a yet to be determined town east of the Salt Lake, either through the lake, or around it to the south. Salt Lake City authorities, naturally enough, wanted the new route to come to them.

January 13, 1902 - *Salt Lake Tribune*

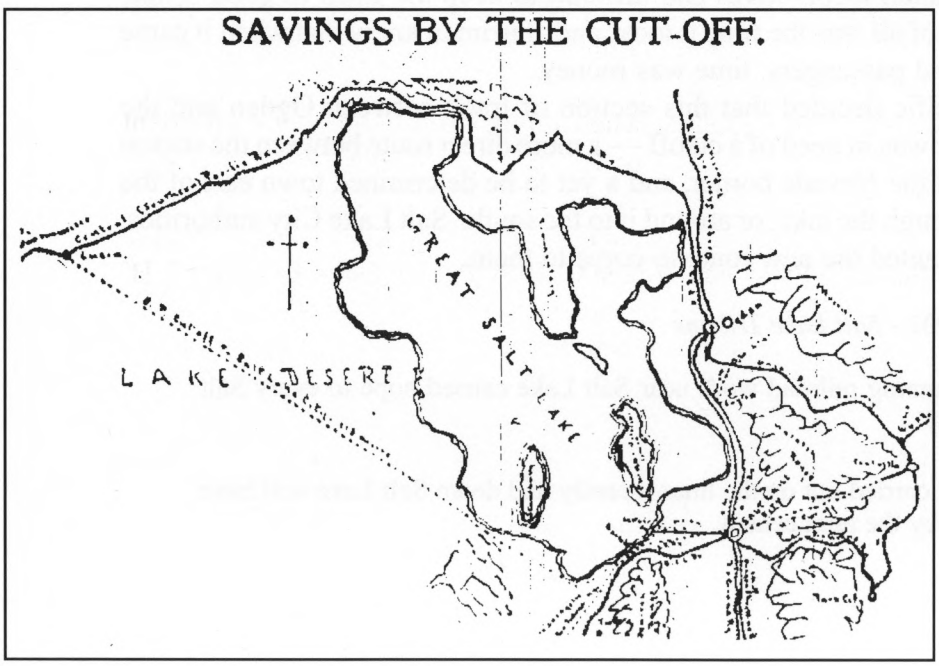
> The news of coming railroad work near Salt Lake carried hope to every Salt Laker yesterday.
>
> If the plans are carried out on the lines recently laid down Salt Lake will have 10,000 people by the next census.

To illustrate, the hills between Ogden and Lucin it can be stated that the distance is 145.5 miles and the west bound overland limited requires 4 hours and 24 minutes. Add to 4 and a half hour wait at Ogden and one hour Salt Lake to Ogden makes a total of six hours Salt Lake to Lucin. By the south shore cut-off the time could be cut right in half on the start or a saving on the first cut-off Salt Lake to San Francisco of three hours. Then add the other cut-offs in Nevada and a half day is clipped off the running time between Salt Lake and San Francisco.

On January 19, 1902, the *Salt Lake Tribune* printed a map illustrating the Lucin Cutoff on its hoped-for course around the south end of the lake, and accompanied the graphic with more statistics on the possible savings in miles and time. By January 22, Salt Lake City's bubble had been popped and the people's hopes for a rail station dashed. The newspaper headline read: "Ogden has good news."



Optimistic cartoon of the Cutoff being built towards Salt Lake City by Southern Pacific and Union Pacific.
January 11, 1902 *Salt Lake Tribune*



Map showing the hoped for direction of the Lucin to Salt Lake Cutoff on its southerly course around the Lake.
January 19, 1902
Salt Lake Tribune

January 22, 1902 - *Salt Lake Tribune*

> The people of Ogden are jubilant today over the announcement that the Ogden Lucin cut-off will begin this week . . .. the engineers in charge of the work have already begun the construction of spurs and side tracks near the Southern Pacific round house to accommodate the cars containing piling, ties and other material to be used in the work. The work of grading the track to the lake will also begin within the next few days.
>
> . . . the company has ordered about 20,000 pilings one-half of which will be here within a few days. They are coming from Oregon. Ties are also being shipped in from the Union Pacific and Southern Pacific and will be unloaded at the spurs now being constructed. Everything is being pushed as rapidly as possible, and within two weeks at the outside graders will be at work along the entire route from Ogden to the Lake, providing the weather remains favorable.
>
> . . . Already the news, assuring to the people of Ogden that the Southern Pacific Railroad is not going to desert the junction city, has had its effect. Real Estate men and investors generally have taken a brighter view of the local situation, and property values have taken a jump upward. Many wise ones have taken advantage of the opportunity to place their money in real estate, and will realize handsomely on the investment.

By the end of January, a group of Salt Lake businessmen joined together and formed a committee called the Commercial Club. The first order of business for this association was to try and convince Harriman to build the new road around the south end of the lake and into Salt Lake City. It was proposed to send a telegram to Mr. Harriman asking him to defer the signing of the construction work contracts for the new Ogden-Lucin Cutoff until the claims of Salt Lake City could be properly presented. It was decided by the Commercial Club that no bonus should be presented to Southern Pacific as an enticement in their favor, the consensus being that when the matter was presented properly to the railroad they would realize that they could not afford to build the cutoff by any other route.

The Commercial Club was jubilant when Julius Kruttschnitt, Vice President and General Manager of the entire Southern Pacific line, accepted their invitation and agreed that no contracts would be signed until after the meeting. Also arriving in Ogden with Kruttschnitt was Southern Pacific's Chief Engineer William Hood. From the Union Pacific came President Horace G. Burt and his Chief Engineer J. B. Berry. The meeting was held with the Commercial club in Salt Lake City on February 10, and on February 11, the bad news was on the front page of the *Salt Lake Tribune*:

> Ogden gets cut-off.
>
> Southern Pacific Will Build Lake Trestle.

Railroad officials simply explained that the Ogden-Lucin Cutoff would be the shortest route, saving 43 miles over the present line, and that the distance around the south end of the lake from Lucin was too great in comparison. Salt Lake citizens glumly accepted the decision, insisting that the railroad officials had already favored the lake route before the meeting commenced. Though the first effort of the Commercial Club failed, the organization was not disbanded, but rather turned its attention to other matters.

Some of the first articles about the project describe it as the Great Salt Lake Bridge, then later the Ogden-Lucin Cutoff, and finally, the Lucin Cutoff. The Lucin station on the old 1869 route — the first Central Pacific station in Utah — was originally known as the Pilot Peak station, named for the historic peak in the Toano Range, 23 miles to the south. The name was changed to Lucin after the discovery of a large amount of fossilized bivalves near there. A bivalve is basically a two-shelled mollusk with a hinge. The fossil was named *Lucina sabanta*, which was shortened to Lucin for the station (pronounced: Loo-sin).

February 11, 1902 - *Salt Lake Tribune*

> Now that it is definitely settled that the Ogden-Lucin cut-off is to be built, a repetition of the figures will be interesting reading. The present Southern Pacific line from Ogden to Lucin is 145 miles long. The Lake cut-off will be 102 miles. A savings of 43 miles. But this is just the beginning of saving. The trains today both east bound and west bound have to climb three hills, one of them the Promontory, being steep and full of operating obstacles. By the cut-off the grades are practically eliminated. From Lucin to Strongs Knob there is a drop of less than 500 feet and fifty-eight miles in distance. The trestle will be level, and from the lake shore to Ogden a rise of 100 feet in about seventeen miles. The rise, either eastbound or westbound will be hardly noticeable. The section from Ogden to the shore requires ordinary grading, with a bridge over Weber river. The trestle from the shore across Bear River Bay to the end of the Promontory does not present any formidable barriers. At the end of the Promontory there will be several miles of road and earth work. Then comes the hard job, the building of the twenty-mile trestle from the Promontory through the deep water to the west shore near Strong's Knob. From Strong's Knob the line cuts through the opening of the Great American desert, between the Terrace and Lakeside mountains, and the rest of the way is easy, being merely desert grading.

In recognition of their good fortune the people of Ogden planned a celebration:

March 17, 1902 - *Salt Lake Tribune*

> This is the day of celebration of the beginning of work on the Lucin cut-off. The first thing on the program will be the street parade, which will form at the city hall square at 10 o'clock and march through the streets of Washington Avenue, Twenty-fourth, Wall and Twenty-fifth streets. At noon a barbecue

will be held on the city hall square, about 200 feet of tables have been arranged upon which the lunch will be served.

At 1:30 the doors of the opera-house will be thrown open and the crowd will gather to hear the program. The seats have already been spoken for, and standing room will be at a premium.

The weather cleared up somewhat yesterday, and in the event that no further rain or snow falls the streets will not be so bad. It will seriously handicap the parade, however.

GETTING STARTED

On March 1, William E. Marsh arrived from San Francisco to push the work along. Marsh was principal assistant engineer to Southern Pacific's chief engineer, William Hood, and was in charge of improving the line from Reno to Ogden. In addition to his job as construction engineer on the Lucin Cutoff project it was his responsibility to keep things moving smoothly and on schedule. Though Mr. Marsh made his home at 829 Fell Street in San Francisco, he would spend a great deal of time in the next few years stationed at the company's various headquarters near the work out on the cutoff.

William E. Marsh started his career with the Southern Pacific in 1875 at the age of 20. Previously he worked for the New Jersey Central, where he had also been assistant engineer. Mr. Marsh earned his reputation as a noted engineer building the Coast Line between Santa Marguerita and Santa Barbara, and the Shasta Line through the Siskiyou Mountains. He also helped construct the Sunset Line through Texas and Arizona, overcoming difficulties resulting from Indian depredations. So it appears Mr. Marsh was no stranger to overcoming great obstacles, of which the Great Salt Lake would prove to be one of the biggest.

The real work started soon after Marsh's arrival with the grading of fifteen miles of ground between Ogden and the lakeshore. The Utah Construction Co., which held the contract for this part of the job, had to be finished in 90 days to stay on a schedule that called for the completion of the project within two years. By the end of March, the project was gaining momentum; the Utah Construction Co. was busy grading between Ogden and the lakeshore, while Southern Pacific was accepting bids for the desert grading on the other side of the lake.

By the middle of June, new track glistened along the east shore of the Great Salt Lake; the 14.5 miles between Ogden and the lake had been completed. Construction trains could now deliver materials from the new Southern Pacific supply yard in Ogden to the lakeshore. This supply yard was one of the largest for the project, covering twenty acres, with access by four train spurs. Similar supply yards were built on the east shore of the lake and at Lucin. The Lucin yard was being filled with telegraph poles, railroad ties and track for the 75 miles of new line that would lead to the lake. The line was laid as fast as contractors (Kilpatrick Bros. and Collins)

were able to complete the grading. Above all, the yards were being stocked with piles and heavy beams in anticipation of the trestlework across the lake.

On July 17, the first vessel arrived in Ogden. It was the 30-foot gas-powered paddle wheel *Tiddley Addley*. This pioneer of Southern Pacific's Salt Lake fleet had a very specialized purpose. The *Tiddley Addley* was designed and built for work in the extreme shallows along the lakeshores. With the project being pushed inward from both ends, a third work camp was established at Promontory Point. The *Tiddley Addley* towed rafts full of men and equipment to the new location where contractors, Cory Brothers and Alden of Ogden, would soon begin the difficult work of cutting a roadbed into the end of the peninsula. This roadbed, included a 3000 foot long cut averaging 20 feet in depth, and skirted around the outer edge of the Promontory saving the Southern Pacific four miles of fill and trestle work. It also facilitated a mid point from which the work could then be pushed outward.

Southern Pacific's Pioneer vessel on the Great Salt Lake, the 30-foot gas-powered paddle wheel *Tiddley Addley*. Although beneficial to the railroad to facilitate a roadway in the extreme shallows of the lake, the *Tiddley Addley* was said to be "more of a whining, grinding failure than a howling success".
California State Railroad Museum

By July 24th, 250 workers were camped near the eastern shore of the lake, where the difficult task of building up the grade over the mud was under way:

July 27, 1902 - *Salt Lake Tribune*

> From lakeshore the work of building out was attended with great difficulty as the water had lately receded and left a bed of mud which in some cases was seven feet deep under the salt crust. So planks were first laid and after a bed had been prepared a temporary track was laid about eight feet south of the

track center stakes of the new line. Rails were laid on this temporary bed and trains of rock and earth from Little Mountain cut were moved out to the end and the material dumped on the north side or on the line for the permanent track. When enough material had been deposited the track was moved over to its permanent location and it will be gradually raised to grade.

But when the water was reached another difficulty was encountered, as the company had no intention of piling in shallow water, but rather to extend the grade as far as possible. Here, therefore, is found the most interesting part of the work. All the men wear rubber boots, as the water is a foot and in some cases two feet deep. Rafts and boats are used and it is certainly a queer sight to see rails and ties being laid by a rubber boot brigade.

First of all a lot of men near the cut fill sacks of sand, 100 pounds to the sack. These are loaded on a car and taken to the end of the track. Here they are loaded upon rafts in the water which are poled to the front. The bags are laid like a tie, crosswise three layers deep. Then are laid 12 x 12 caps.

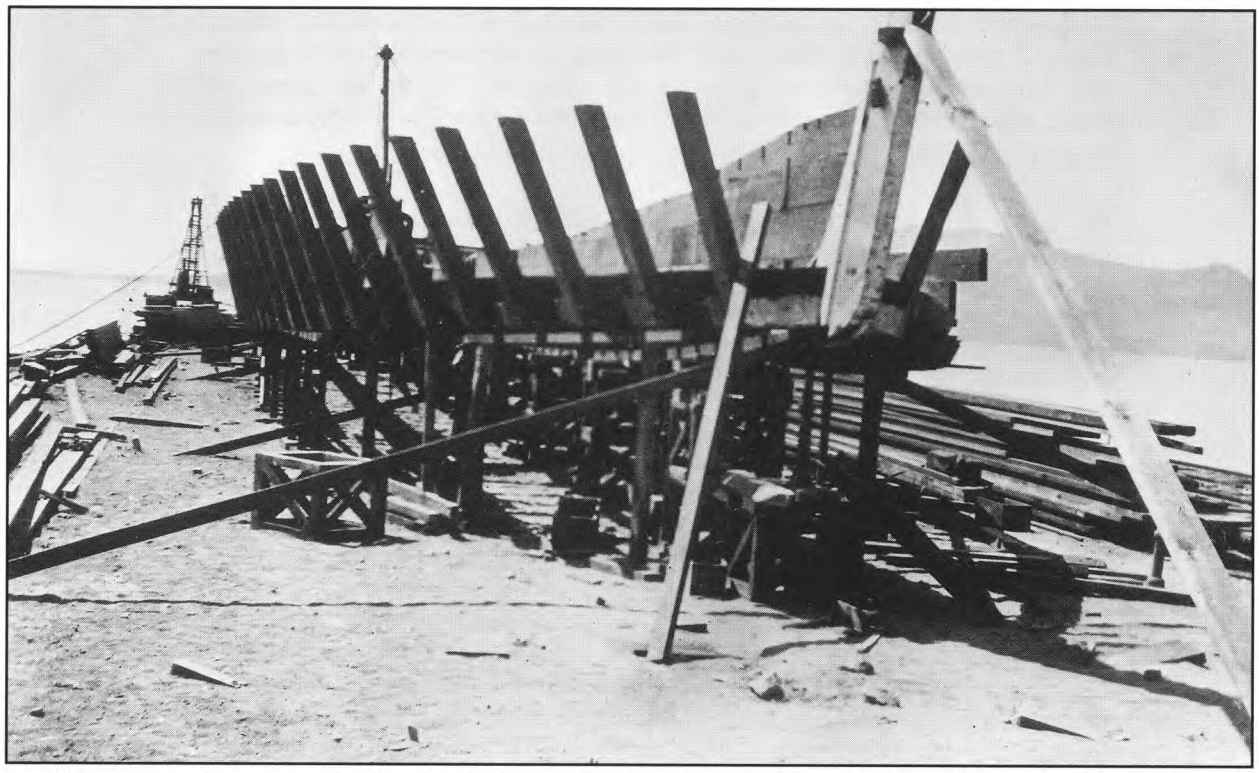
Then lengthwise 30-foot stringers 8 x 17 in size. Then come the ties, then the rails. This is a temporary track and the trains of dump material are run out and the contents dumped to the north on the track center for the permanent line and afterwards surfaced for the track to be moved north. In this way the line is built and when the track is moved the sandbags caps and stringers float out and are used over again for more temporary track at the front.

It wasn't until the Lucin Cutoff stretched halfway across Bear River Bay and into Box Elder County that the news of a big steamer being built hit the papers. Southern Pacific's granddaddy of the fleet, the *Promontory*, was being built out on the cutoff at an impromptu shipyard. This shipyard was established when the cutoff reached a sufficient depth of water to facilitate launching such a vessel.

The paper compared the *Promontory* with the *Solano* and the *Piedmont*, two of Southern Pacific's paddle wheel ferryboats working in the San Francisco Bay area:

August 27, 1902 - *Salt Lake Tribune*

Within a short time there will be launched on the lake the steamer *Promontory*, which is now being built at the shipyard at Little Mountain. It is probably not so big or attractive as the *Solano* or the *Piedmont*, but it will certainly be one of the most unique boats of the Southern Pacific's floating equipment, and with the launch, skiffs and rafts, will make a large fleet on the Great Salt Lake. The new boat will be used for general heavy work in connection with the driving of piles in the deep water.



The steamer *Promontory* in frame. Pieces of the steamer were cut out in Southern Pacific's yard in Oakland and shipped to the Great Salt Lake where they were assembled out on the cutoff.
California State Railroad Museum, Collection: SPED b22-5 No. 17222

Finishing touches are added to the steamer after being completed in the water. According to the most reliable source (Oscar King Davis, 1906) the *Promontory* was 127 feet with a draft of only 18 inches.
California State Railroad Museum, Collection: 387-253 No. 16979

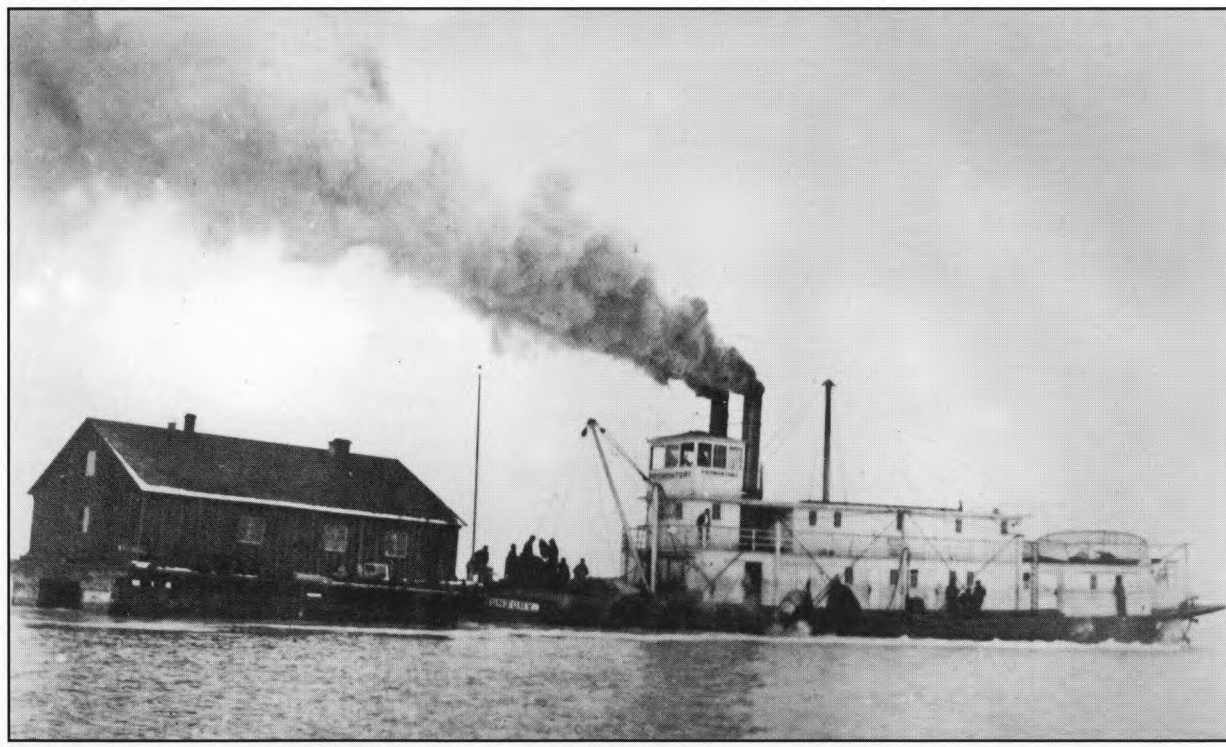
By August the Southern Pacific had amassed enough materials and equipment to begin the process of driving piles in the lake:

August 26, *Ogden Standard*

The first pile, twenty six-feet long, was sent down out of sight with a single stroke of the ponderous hammer; a second log twenty-eight feet long was set upon the first and one blow sent both out of sight. There must be fifty feet of mud and how much more no man knoweth. Other drivers are being put together each one is placed on two pontoons and anchored in position. The great depth of mud above mentioned is right in the way of the current of Bear River and no one can tell how many thousands of years the old stream has been depositing it. The officials admit it is a surprise to them, but say the road must be pushed through, and so it will be. Everybody that wants work is put to work and there are now 500 men pushing the enterprise along.

More steam shovels will be put to work immediately, and the amount done increased proportionately. It is said the construction is five months behind expectation, and increased activity is necessary.

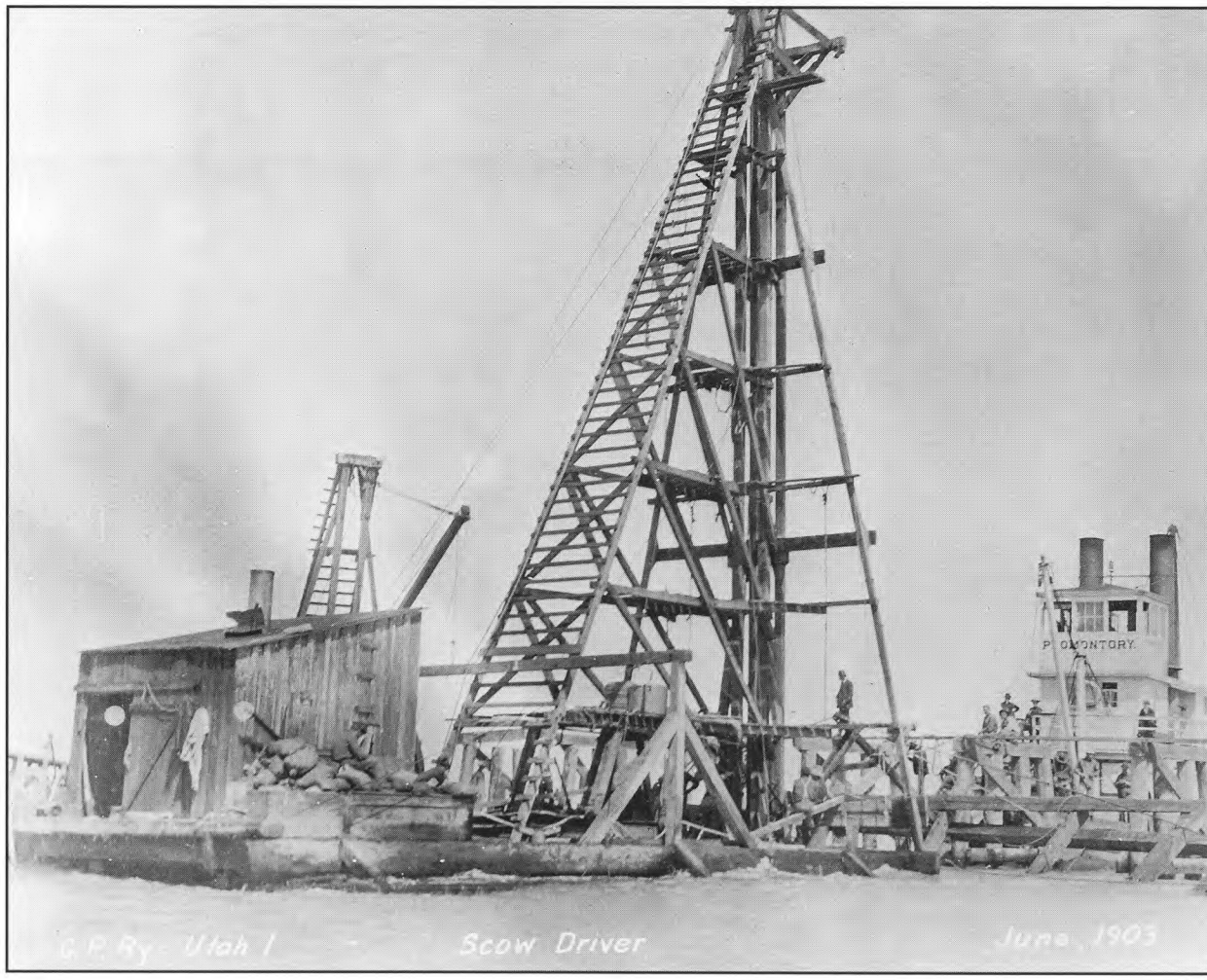
A house containing kitchen, dining room and sleeping apartments has been built on two pontoons. It will be occupied by the men working on the pile drivers; so whether working, eating or sleeping they will be rocked on the gentle ripples of the briny inland sea.



Floating bunkhouse and kitchen for some of the pile driving crews
California State Railroad Museum, Collection: SPED b22 P.44 No. 17255

Mann McCann ballast spreader at Rambo, November 17, 1904. Once the dump cars had dumped the material up to the top of the track the ballast spreader would grade it away from the center.
Used by permission, Utah State Historical Society, all rights reserved Photo no. C-525

(below)
One of the enormous floating type pile drivers, constructed in Oakland and shipped in sections to the lake.
California State Railroad Museum, Collection: SPED b22 P.35 No.17226



During the period that followed, Southern Pacific work crews engaged in the process of driving piles between the end of the completed fill (extending from the east shore) and Promontory Point. The piles were the groundwork for a temporary trestle to carry the cars of earth fill to be dumped, forming the permanent embankment. When this process was completed, the piles were not removed, but left inside the permanent roadbed.

On September 1st, Labor Day Sunday, two men who were sightseeing out on the cutoff were crushed to death, giving the Lucin Cutoff its first fatalities since the beginning of the project in March:

September 2, 1902 - *Salt Lake Tribune*

> J. Curtes Prout well-known young man of Ogden, and C. W. Perkins, a traveling man from St. Louis perished — both men were on the end of the caboose when it was backed into a flat car with such force as to crush it into splinters, catching them in the wreckage.

Though the process of setting pilings across Bear River Bay was necessarily slow, the railroad now extended twenty miles from Ogden. On the other side of the lake, from Lucin, work crews had also laid their twentieth mile of track.

September 9, 1902 - *Salt Lake Tribune*

SHIPBUILDERS HERE

> A party of twenty-four ship builders from Oakland, Cal. arrived at the lake shore yesterday for the purpose of finishing the construction of the Southern Pacific steamer *Promontory* details of which were given about ten days ago. The steamer is to be used on the lake by the men at work on the Lucin cut-off and will soon be ready for handling the pile-drivers. It is 125 feet long with a twenty-five foot beam.

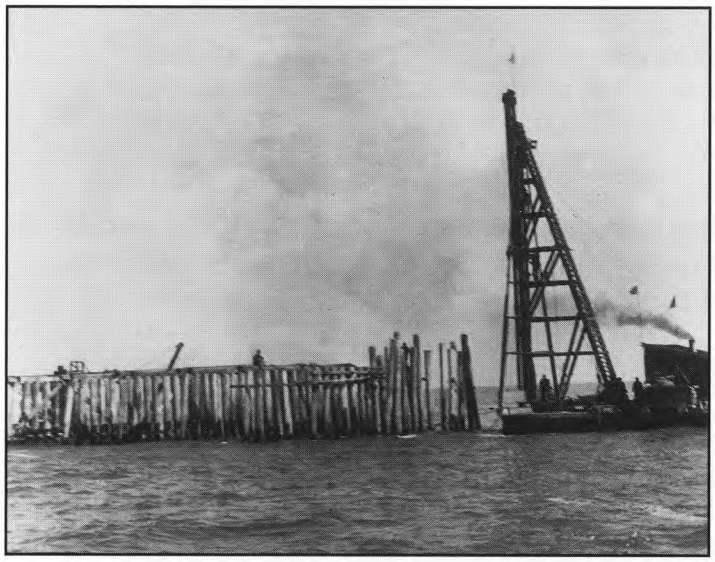
On September 10th, only two days after the arrival of the shipbuilders, the steamer *Promontory* was launched into the Great Salt Lake. The launching, so soon after the shipbuilders arrival, was practically not mentioned. This was due mostly to the unfinished condition in which she was launched, only a flat-bottomed hull and steam engine. The twenty-four Oakland ship builders would remain to finish the task on the waters of the lake.

September 22, 1902 - *Ogden Standard*

> Mr. Monck, who is in charge of the boats of the Southern Pacific in San Francisco Bay, arrived in Ogden this morning and he will proceed at once to put into shape for running the boat recently launched in the lake for the purpose of supplying the pile drivers that are at work on the Ogden-Lucin Cut-Off.

Mr. Monck will be here about three weeks. The name of the boat is the *Promontory* and is about 105-feet long and has an immense stern wheel something similar to the boats on the Sacramento and Mississippi Rivers. It is about 150-tons burden and when in commission will employ a crew of 12 men. It is built especially for shallow water and is very light draft.

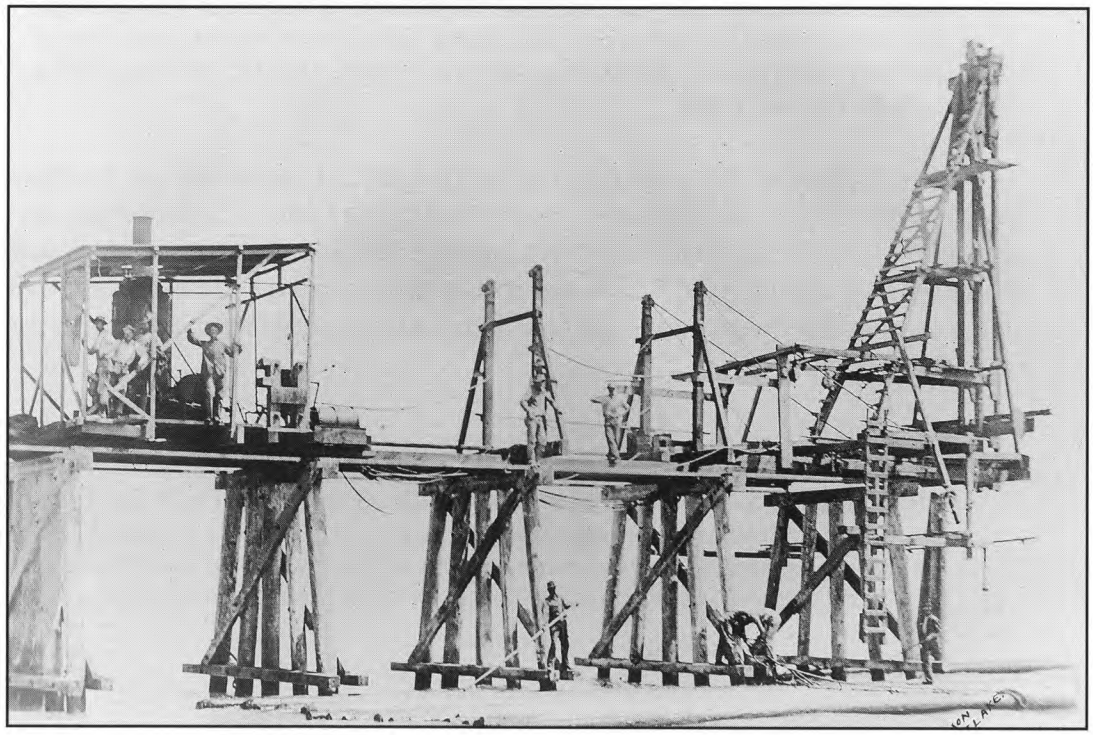
The building of the *Promontory* was completed in the water, and the work of piling the lake's east section was accelerated. Six pile drivers were now banging away on the job. Pilings between 60 and 70-feet long were rushed out to the cutoff on flat cars to keep up with the demand of the pile drivers, which were each covering 60-feet per day.



Once a sufficient amount of piling were driven by the scow drivers to facilitate an adequate platform, the top drivers took over. These steam driven "swinging gin" skid pile drivers were capable of driving the piles at different angles for maximum support, fifteen feet beyond the last bent, or row, of supporting piles.

(left) *Californa State Railroad Museum, Collection: 387-253 No.16984*

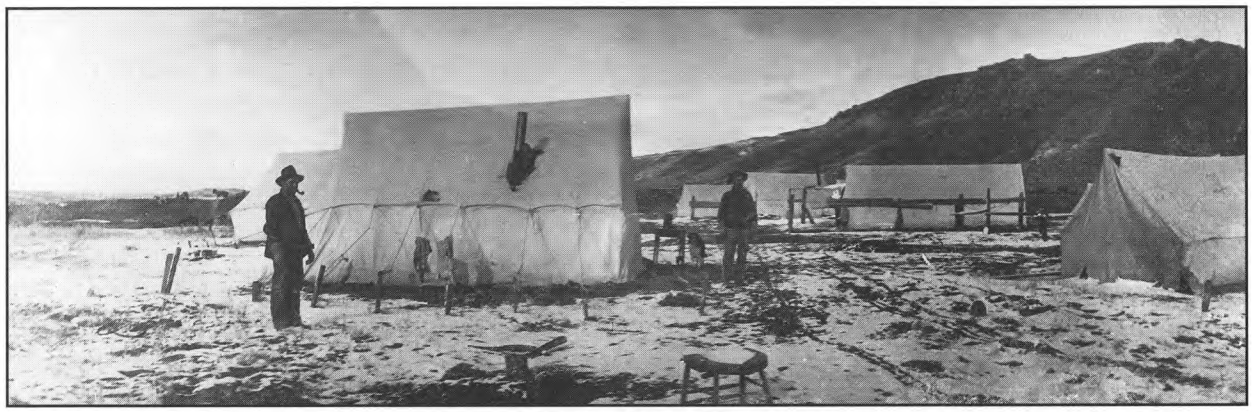
(below) *Manuscripts Division, J. Willard Marriott Library, University of Utah*



Southern Pacific ordered forty thousand tons of steel rails from Germany. American foundries were unable to accommodate the enormous demand for rails during this period of growth. The great demand caused Southern Pacific to abandon its main line between Corinne and Ogden. This twenty-mile section of old track was torn up and temporarily used on the cutoff. From then, and until the completion of the Lucin Cutoff, Southern Pacific ran its trains on the Oregon Short Line, which paralleled the abandoned track.

By the first of November, the new road stretched from the station of Lucin to Strong's Knob (later Lakeside) where another material yard was established. On the east side of the lake the temporary trestle across Bear River Bay was complete, and the task of filling in around the piles continued. While piling the eastern arm of the lake, an extremely soft section in the bottom had been encountered; evidently the greatest amount of silt from the Bear River had settled in the center of Bear River Bay, forming a bog. It was said by the *Ogden Standard* that two 70-foot pilings, one driven atop the other, could not find secure bottom. The lake, through this section, was less than ten-feet deep, indicating that there was over 100-feet of something other than solid bottom. The instability of the bottom was also evident by the amount of fill being used around the pilings, so much so that it seemed no amount would fill this voracious hole.

Four piling per bent, each bent 15 feet apart, was the specification of the temporary trestle. The steamer, *Promontory* is on the right.
California State Railroad Museum, Collection: 387-253 No.16977



One of the company work camps where winter hardships were endured. Anyone who wanted to work was hired. Unskilled laborers were paid two dollars a day (excellent pay in 1903). Carpenters, mechanics, bridge workers and engineers were paid around $4.50 a day.
California State Railroad Museum, Collection:387-253 No.16987

Four hundred new side-dump cars were constructed just for the Lucin cutoff project, but this number was not sufficient. In addition to some flat cars, all other dump cars that could be spared by Southern Pacific were used. In total over a thousand cars were utilized just for the dumping of fill.
California State Railroad Museum, Collection:387-253 No.16986

Temporary trestle after being filled in. Looking east from Lakeside toward Promontory.
California State Railroad Museum, Collection:387-253 No.16982

During this stage of the construction the tracks in this section settled continually, each time being built back up again. The fill material was coming from a site on the lake's east shore, just west of Ogden, Little Mountain. It was said by the newspaper, that Little Mountain, just keeps getting littler.

In Southern Pacific's efforts to achieve a solid footing they unknowingly created an area where numerous accidents occurred:

December 10, 1902 - *Ogden Standard*

> Owing to the settling of a stretch of track on the Ogden-Lucin cut-off work opposite the mouth of the Bear River last evening, sixteen cars and one engine dropped to the water and traffic across, to and from Promontory has been suspended most of the day. The stretch of track where the settling occurred is the same piece where a similar accident has happened so many times before and where for weeks the ballast train has been dumping hundreds of carloads of rock in an effort to make the track solid enough to sustain the heaviest loads. The bad stretch is but a short one - probably not over twenty car lengths in extent and could be readily bridged. However, the scheme of the entire work

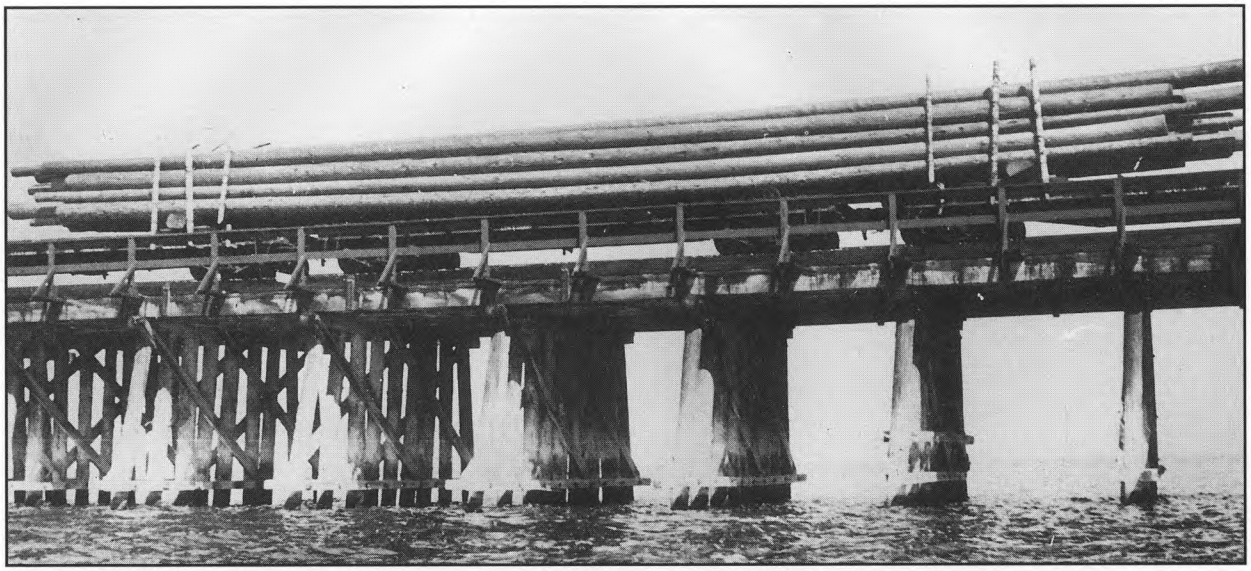
> is for permanency, and believing that the bottom can be reached some time, the engineers in charge have continued the dumping in of rock. Light trains go over the stretch, but hardly a week has passed since the laying of the rails that two or three accidents similar to the one last night have not happened, though the number of cars has never been so great as on this occasion. A curious circumstance of the affair was that a number of scows, tow-boats and timbers which were floating beside the track when the cars went down were suddenly landed in the mud as the bottom bulged up beneath them.

Southern Pacific engineers referred to this bulging up of the bottom as uplifts. It is curious to think about what an experience this must have been for the workers, both on the train and in the boats. Imagine sixteen cars and an engine sinking down into the water as, simultaneously, the huge mounds of mud pushed up under the boats leaving them high and dry.

From atop the trestle, a view of the mess faced by Southern Pacific's engineers. Note the uplifts on both sides of the track. So extreme were some that the piling inside the embankment was forced out and to the surface more than 100 feet from the tracks.
California State Railroad Museum, Collection:387-253 No.16972

Laborers unload rock by hand from the side-dump cars that have all but disappeared into the center of the grade. As a result of the high salinity of the lake water, rock was used in areas where earth was no longer effective, not having adequate density in contrast to the water, the lighter material was spreading out to excess or being carried away all together.
California State Railroad Museum, Collection:387-253 No.16974

By February, the western arm of the lake between Strong's Knob and Promontory Point was being piled for the new permanent trestle. Pile drivers were stationed approximately one mile apart and drove some of the longest piling yet. Though most of the un-spliced piles were from 70 to 80-feet in length, the longest ones were over 120-feet and had to be driven by a special "off set" pile driver — developed on the Lucin Cutoff project. Extremely long already, some piling still had to be spliced together to form longer piles yet. These spliced piles were used throughout the deep-water section of the permanent trestle, where needed. Incredibly, a crew of 150 workers were required just for the process of splicing these pilings together. It was reported that there were between 700 and 800 employees working on the cutoff. Though the lake's soft bottom was a formidable obstacle to Southern Pacific, the opposite was also true. In places where heavy salt layers could not be penetrated by the pilings (bouncing back or shattering when struck by the hammer) the aid of a steam jet was required. Sometimes when a pile was already 40-feet deep it would rebound two or three feet after being struck.



The 40 foot flat cars give scale to some of the pilings used in the deep water section of the Lucin cutoff. 38,000 piles were used in the construction of the Lucin cutoff, some of which were over 120 feet long. The cost of the Oregon pine logs was $60 each, a tidy sum considering a laborer on the project was paid $2 a day.

A total of 25 pile drivers were sent from Oakland, Ca., including the ten pile drivers first used on the eastern arm, some of which were the floating type or scow drivers. Once the scow drivers had driven enough pilings, the top drivers could take over, allowing the scow driver to start at another point. The work throughout the winter months went as expected — slowly. During an inspection of the cutoff, February 19th, W. E. Marsh expressed surprise at the progress accomplished.

After a year with no work-related deaths, the first fatality credited to the sinking nature of the bottom was reported. This ended the streak of good fortune and set the tone for the year to come:

March 26, 1903 - *Salt Lake Tribune*

As the result of the continual sinking of the Ogden Lucin cut-off, an engine went under this morning and fireman Robert W. Watson was killed. Ever since last fall the track has been steadily sinking, and thousands of tons of rock and earth have been dumped into this bad spot to fill up the soft bed. A quagmire or quicksand has been a source of constant trouble to the engineers. It is located between the east shore and Promontory, and at least a dozen times has sunk. Several narrow escapes have been recorded, but yesterday was the first fatality.

The track had evidently been settling overnight, and early this morning an engine started across with engineer Jenkins and Fireman Watson in the cab. When it reached the soft spot the heavy engine lurched and then dropped, falling over on its side and settling. Engineer Jenkins was but slightly injured but as the fireman was on the side to which the engine fell, he was caught and crushed.

First work-related death, that of Robert W. Watson, occurred west of Promontory, near the approach of the permanent trestle, when engineer Jenken's east bound light engine derailed due to a section of grade settling during the night.
California State Railroad Museum, Collection: SPED b22 P.16 No.17224

April 1, 1903 - *Salt Lake Tribune*

Word comes from Ogden that another sinkhole has been encountered in the lake by workmen on the Lucin cut-off. This time it is located west of the Promontory in deep water. It is forty feet and the track has sunk five feet. Efforts are being made to keep the matter quiet, but there is no doubt that a serious obstacle has been found at this point in the lake.

April 3,1903 - *Salt Lake Tribune*

Engine and Cars Drop into Great Salt Lake

Another Accident Occurs on the Lucin Cut-Off

Trestle Work Gives Way

Five Hundred Feet of Track and Bridge Collapse

Another accident occurred on the Lucin cut-off late Wednesday night, when about 500 feet of trestle work about one mile west of Promontory point gave way and four cars of gravel and an engine were precipitated into the lake.

Peter Demerosi, a Greek laborer, was slightly injured, and another man, whose name is not learned, suffered severe bruises, but otherwise no serious damage was done.

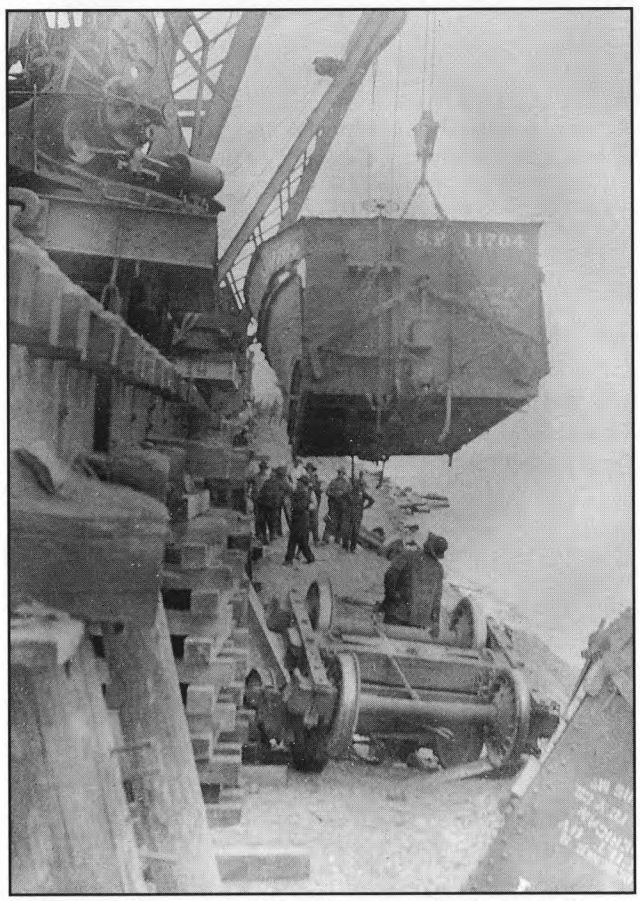
The cause of the collapse was due to the unfinished condition of the trestle work causing a spreading of the track and giving way of some piles.

April 5, 1903 - *Salt Lake Tribune*

The Southern Pacific Engineers assert they have encountered no difficulties they had not anticipated, and are not easily overcome, and the Great engineering project of spanning the Great Salt Lake will be an accomplished fact by July 4th and the cut-off opened to traffic by the end of the year.

April 7, 1903 - *Salt Lake Tribune*

Railroad men doubt the stories of a wholesale casualty list at the lake cut-off. It is true that many minor mishaps have taken place, but the one fireman is probably the only one killed.



Two wrecking cranes lift a dump car back up to the top of the temporary trestle from where it had fallen when the track settled. Notice the cribbing and timbers used to raise the track so the work could continue.
Used by permission, Utah State Historical Society, all rights reserved Photo no. C-525#52

April 9, 1903 - *Salt Lake Tribune*

Sent out from this city continually are fake telegrams, especially to the yellow journals, purporting to be facts regarding the Lucin Cut-off of Southern Pacific across the Great Salt Lake. While news of the work and its progress, with any incidents or accidents are all right, it is certainly unfair to add to the truthful news absolutely false stories regarding the same. To date one man has been killed, which is remarkably low percentage. No engines or cars have been lost and the line is being finished in considerably less time than was at first believed.

Although the last three articles lead one to believe a collapse of the trestle hadn't taken place, it was reported by *Scientific American* in October of 1903, that the trestle did indeed collapse. There were no injuries mentioned; however, they did claim that two cars of gravel were lost, and an engine would have been lost, if it had not been quickly uncoupled.

April 11, 1903 - *Salt Lake Tribune*

Launch *Patanaran* is Lost at Lucin Cut-off

> Capt. Charles A. Tuff and the crew of the *Patanaran* had a narrow escape from a watery grave out on the Salt Lake about 6 o'clock Thursday night. This storm which has been threatening for several days past struck the lake in all its fury toward evening and the lake rose very high. The waves are said to have been higher than at any time since work began on the cut-off.
>
> The launch was anchored just north of the trestle, but she began dragging her anchor and started through the trestle. She drove her way between the pilings, ripping a hole in her side. While going through, the men all left their boat and climbed up on the trestle, excepting Capt. Tuff who stayed at the wheel hoping to save the boat. After she had gotten through, it was discovered that she was rapidly sinking, and the men threw a lifeline to the captain and pulled him to the trestle. The *Patanaran* is a small boat, about sixty feet long and sank in twenty-five feet of water.

With good weather coming on, the pace picked up. Southern Pacific knew that in order to keep the cutoff on schedule, pile driving would have to be continued at night. Lights furnished from electric plants allowed the employees on the rigs to work in two shifts. Pilings arrived from Oregon every day in order to keep up with the twenty-four hour work schedule.

As the cutoff grew into a visual marvel of human engineering skill, the rich and famous began to arrive to take a look. E. H. Harriman came to check on the progress:

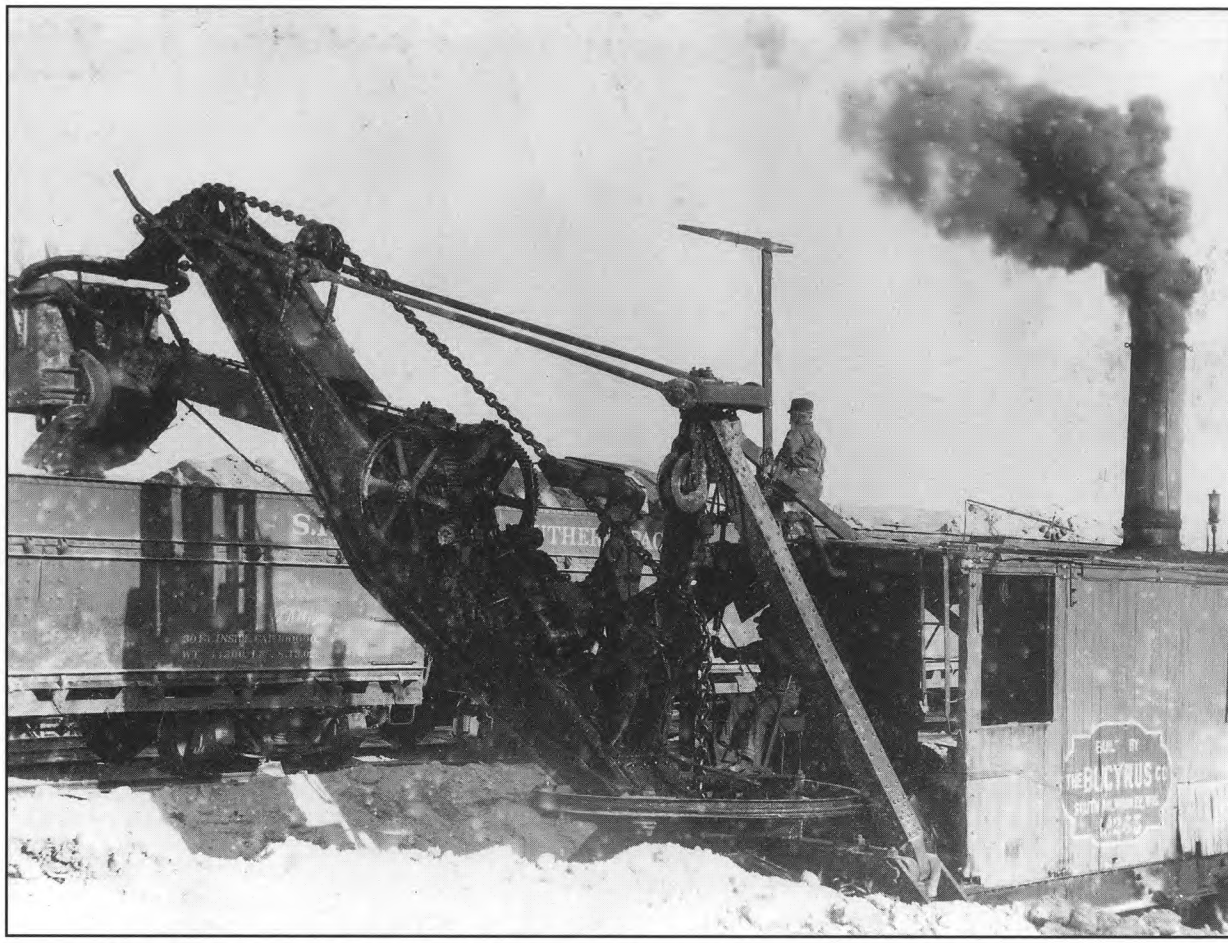
April 22, 1903 - *Ogden Standard*

> Mr. Hood is here to meet E. H. Harriman, who will arrive shortly after 4 P.M. No one as yet knows how long the latter will stay in Ogden but it is inferred that he will go out on the cut-off to the end of the trestle work three miles beyond Promontory Point and will then take a trip in a gasoline launch to the west shore of the lake. A new gasoline launch named the *Bison* arrived yesterday and was taken to the lake. It is 45 feet long and has a 75 horse-power engine and was too large to bring through the snowsheds from San Francisco. So it came around by way of Portland. This launch, it is said, will be used to convey the Harriman party to the west shore of the lake. Here the party will be taken to Lucin by a special train where the regular special train will be waiting to convey the party to the coast.

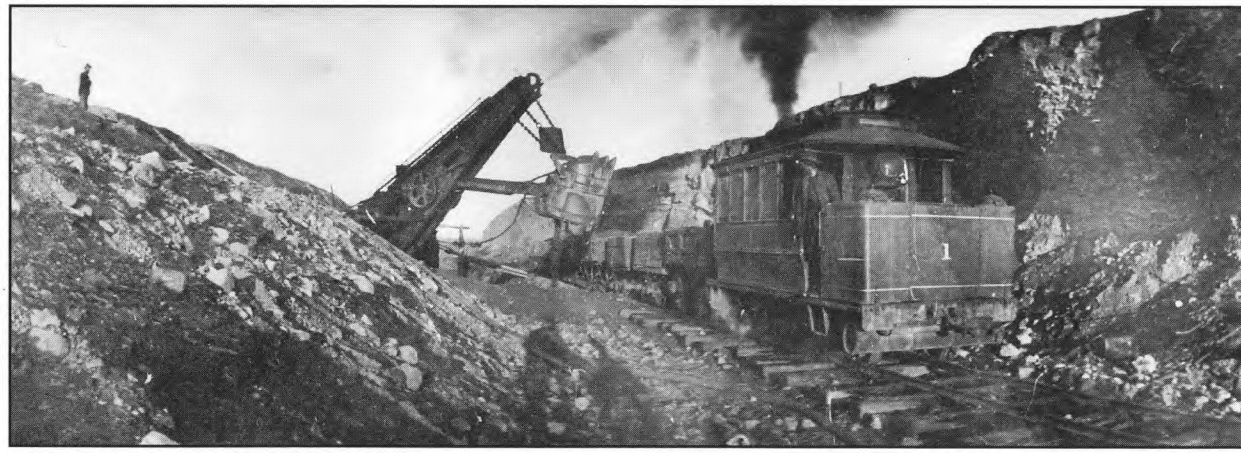
E. H. Harriman and company visit camp 10 on the Lucin cutoff. Harriman is the figure standing furthest inside the train. *Union Pacific Museum collection*

The snow sheds posed a special problem for hauling larger boats on the flat-cars. Not only did the old snow sheds pose restrictions on what could pass through them because of their height and width, but they were further limiting because of the curvature some had as they followed the winding tracks. It was not the length of the boat that was necessarily the problem, but the length to beam ratio. A very long boat was hauled by suspending it between two flatcars that acted as pivot points when the cars went around a curve. The middle of the boat would then move out beyond the line of the cars and collide with anything close to the tracks. Therefore, a boat that was particularly long had to be un-proportionately narrow. One of the more extreme examples of narrow boat building, to accommodate rail travel, was the 60-foot long, iron-hulled steamer, *Emerald*. She was built in San Francisco, in 1887, by Union Iron works, and hauled to Lake Tahoe. Remarkably, she was designed with only a 9-foot beam, which allowed the boat to pass through the tunnels and snow sheds at Donner Summit without difficulty.

Near the end of April, the Lucin Cutoff extended to a point three miles beyond the Promontory, and pile drivers working back to back were stationed at one-mile intervals all along the path of the permanent trestle. Boarding houses were built between each set of pile drivers just as soon as there were enough piles driven to support them. The crews of the pile drivers paid four dollars a week for the privilege of staying there, but the cook and supplies were free.

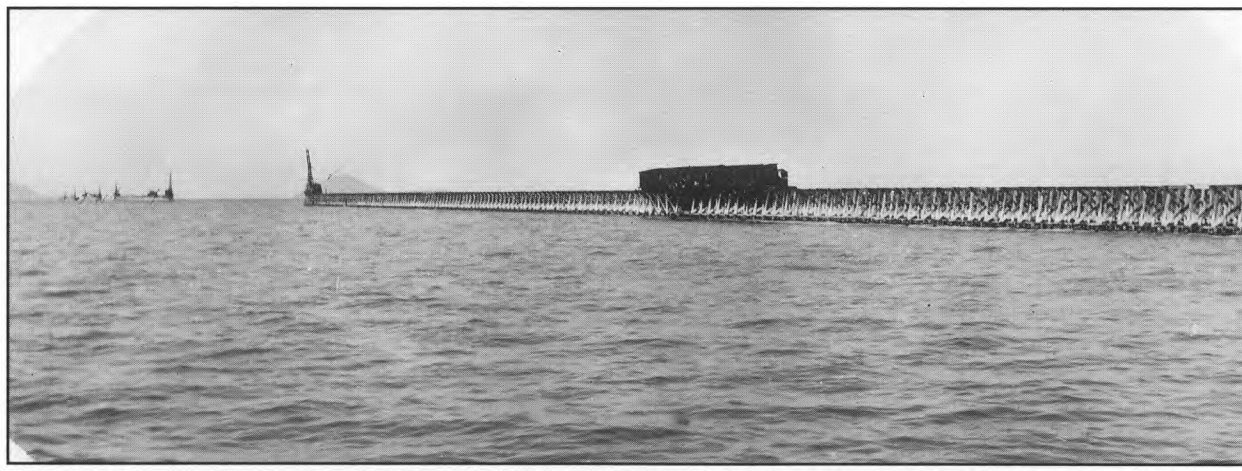


It seemed to the engineers of the turn of the century that nothing was impossible since the invention of the steam shovel: here one of eight 5 yard Bucyrus shovels loads material into the endless line of dump cars.
California State Railroad Museum, Collection:387-253 No.16988



Excavating rock from Lakeside quarry on the west side of the lake. Steam shovels were provided by the Bucyrus Company at a cost of $10,000 each.
California State Railroad Museum, Collection:387-253 No.16973

As the work of raising the grade continued, sidings were added so that trains could pass each other. The uplift on the right serves as a foundation for a makeshift telegraph station. Before the telegraph was established on the cutoff messages had to be hand delivered by the launches.
California State Railroad Museum, Collection:387-253 No.16970



In the distance, the seemingly endless line of swinging gin pile drivers work toward each other. In the center of the photo one of the companies boarding houses. Many employee families also lived on the cutoff, their personal box cars lining the numerous sidings at the height of the construction.
California State Railroad Museum, Collection:387-253 No.16971

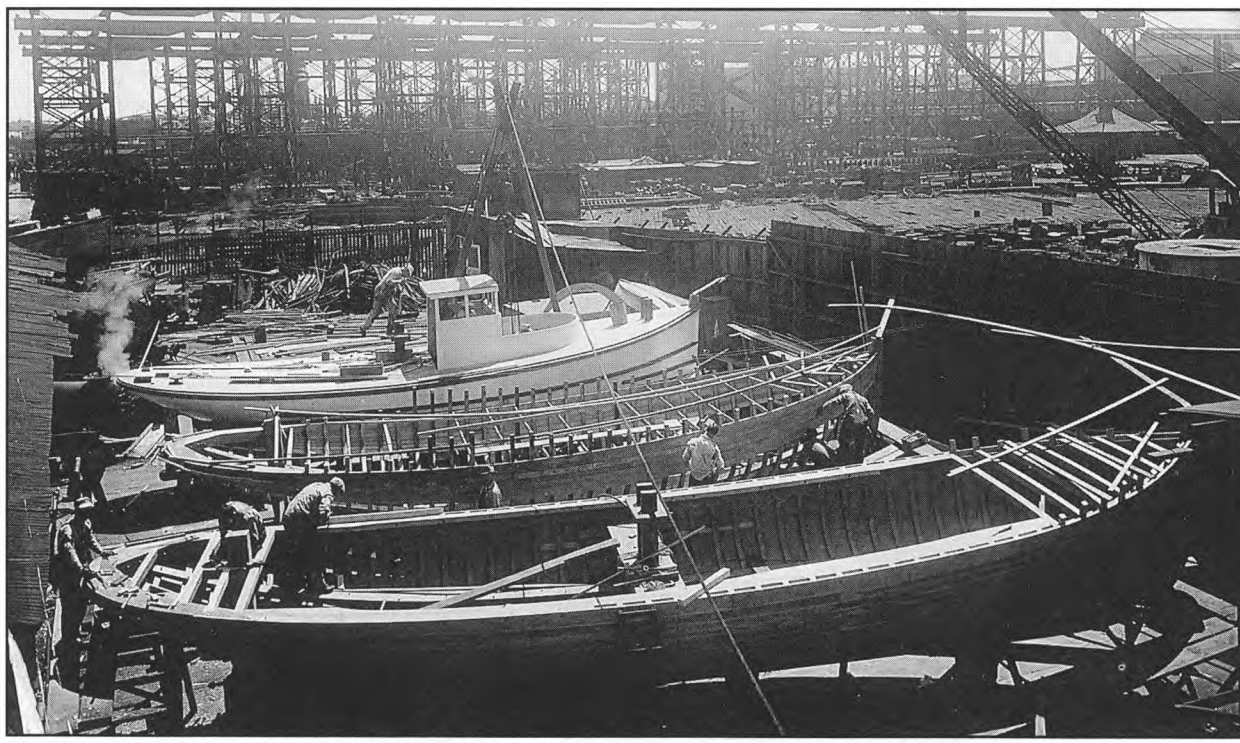
~Launches~ Builders & Operators

Before the *Lucin* was put on a flat car and hauled to the Great Salt Lake, she was one of a rapidly growing number of gas powered passenger launches doing duty on the waterways of San Francisco. One of the *Lucin's* oldest documents (a communication between the Commissioner of Navigation in Washington, and the United States Customs Service on May 24, 1918) states the *Lucin*, was said by Southern Pacific, to have been built in 1893 by C. Kneese, master carpenter. It is likely that Southern Pacific was inaccurate with the spelling and initialing of the builder's name in the communication. No boat builder named C. Kneese was known in San Francisco during the period that the *Lucin* was built. It is very likely that George W. Kneass, master carpenter, who was well known in San Francisco for building boats like the *Lucin*, built the *Lucin*.

Self-named, George Washington Kneass, was born in Yolo County in 1859, to Mr. and Mrs. Dallas A. Kneass, immigrants of Wales. As a young boy, George apprenticed with Martin Vice, a respected and well-known ship builder in San Francisco. After serving his apprenticeship, Kneass worked for Martin Vice five years, after which he became Vice's partner. After the death of Martin Vice, George Kneass took over as sole proprietor. By 1892, just one year before the *Lucin* was built, Kneass had a large shop at 718 3rd street, as well as a yard at Solano and Illinois streets in Potrero, employing 25 to 50 hands. Kneass specialized in building smaller vessels (under 70 feet) vapor launches, rowboats, coffee lighters, and sailboats for both work and pleasure.

George Washington Kneass was a strong willed, competitive boat builder whose versatility was evident on signs at his post turn-of-the-century shop: yawls, dinghies, gigs, steam and gasoline launches, metallic life boats, whitehalls, salmon, surf, sail and row boats. He moved houses and sold flagpoles also.
courtesy of Claudette (Kneass) Lomas

Kneass' early shop at 718-3rd St. "Steam Launches a Specialty", suggests that the photo was taken before the turn of the century, before gasoline engines became popular.
courtesy of Claudette (Kneass) Lomas



Three harbor tugs at various stages of completion at Kneass' eighteenth and Illinois street ship yard, near the Union Iron Works plant.
courtesy of Claudette (Kneass) Lomas

George Kneass enjoyed a coast wide reputation for building excellent boats and a seemingly endless demand for them. But all was not easy; Kneass endured at least four serious fires. One fire on September 19, 1898, at 718 3rd street, partially gutted the two-story building. Another fire in mid September 1904 partially destroyed the Potrero shop. Only six weeks later on October 3, 1904, possibly the worst fire of all completely gutted his shop on 3rd street. Unfortunately, Kneass was preparing for salmon season and had a great deal of stock on hand for building salmon boats. The estimated value of the wood alone was $30,000, equivalent to $300,000 today. Prior to January 1915, a fire that distorted his shop near the Union Iron works plant interrupted an order by the *Alaska Packers Association* for over a hundred salmon boats.

When gasoline engines became fully accepted, Kneass expanded with the times, building power tenders and power salmon boats for the north country. He built powerful tugboats, patrol boats and gasoline launches for bay use, as well as power lifeboats for the many ships that had come to require them by law. By 1918 Kneass and Sons was an important industry to San Francisco, employing approximately 125 workers. Practically all of the lifeboats installed on vessels built in the north were built at their yards, which snapped out two complete boats per day. Kneass's business was one of a handful of survivors out of the forty or so small boat building enterprises that existed around the bay prior to 1918. *Pacific Motor Boat Magazine* reported at the time that Kneass was swamped with business.

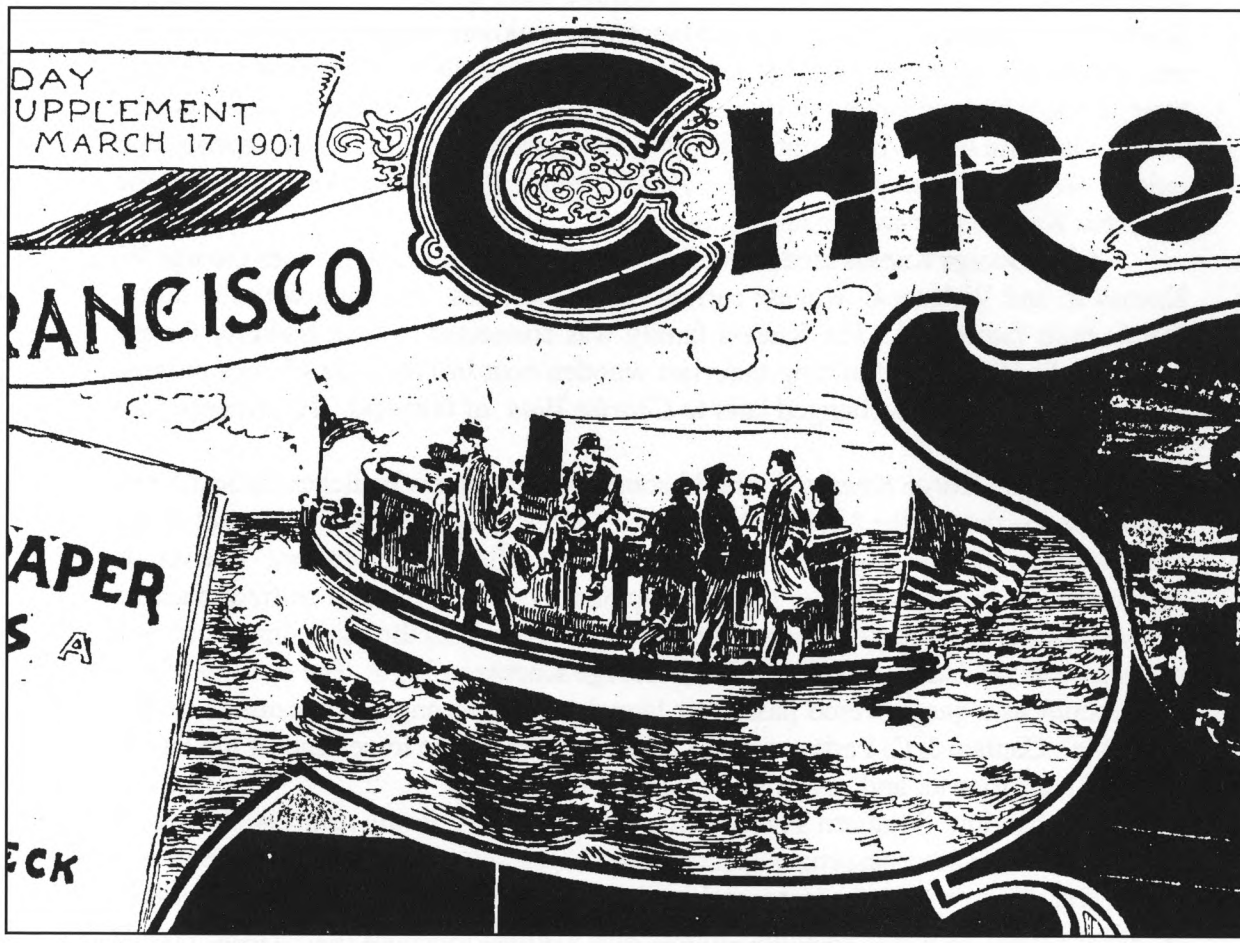
After George Kneass died on March 3, 1923 at the age of 64, his sons George W. Kneass Jr. and Webster L. Kneass carried on the business, changing with the times, just as their father had. The Kneass family was connected to boat building for approximately 100 years, building their last wooden boat in 1965, the 43-foot passenger boat *Snoopy*, which changed later to *Charlie Tuna*, of Portland. The Kneass yard finally closed in 1970.

Though George Kneass did build some of the first gas launches on San Francisco Bay, the date of the *Lucin's* construction (1893) is quite early for a vessel of her class, and would have made her one of the earliest on San Francisco Bay. It is just as likely that the *Lucin* started her life as a naphtha, or steam powered craft, or perhaps a bay schooner like the *Belvedere*. The *Belvedere* was about the same dimension and hull shape as the *Lucin*, and also built by George Kneass in 1893. The *Belvedere* was later rebuilt as a gas powered passenger launch when gas engines became more dependable. Captain J. C. Parker worked the *Belvedere* on the lower end of the Sacramento River prior to, and just after the turn of the century.

By the time Southern Pacific acquired the *Lucin*, in all respects she was a typical San Francisco passenger launch. She had a seven-window cabin, long and low nearly all the way to the stern, making her what was referred to as a cabin launch. A 30-hp Frisco Standard gasoline engine, also typical, powered her. These vessels were referred to as gasoline launches and were becoming quite prevalent around the turn of the century. Their demand was due to the inaccessibility of a large portion of the San Francisco waterfront and the increasing dependability of the gasoline engine.

Commercial launches were versatile vessels. The majority ranged from 35 to 45-feet in length, and their long, low-slung cabins suggested that they might be taxis, but their towing bits, heavy cleats and guards indicated that they could be tugs. Actually, most early gas launches were both of these and more. They were jacks of all trades, hauling small cargo and passengers around to the inaccessible areas of San Francisco Bay and picking up small towing jobs along the way. Typically, these vessels had plumb stems, low narrow hulls and fantail sterns. The cabins often ran almost the full length of the boat, allowing only the usual space forward of the pilothouse and adequate room for passengers to board aft. That combination of characteristics required for the gas launch affected its design, creating a unique and very beautiful vessel.

Though many gasoline launches were built as multipurpose vessels, some leaned more towards one application than another. The *W. E. Marsh* had a towing bit well



A typical turn of the century passenger launch on San Francisco Bay.
San Francisco Chronicle

forward of the rudder and a shorter cabin, which suggests that she was more of a tug. Whereas, the *C. A. McNeill* or *Risdon*, with their cabins running almost the entire length of the boat and no towing bit, suggest a passenger hauler. Regardless of design intent, these vessels were used in every capacity on the Great Salt Lake, pushing with their bows, pulling with their bits, hauling workers and supplies in their beautiful long, low-slung cabins.

Small fleets of these launches were owned as businesses on San Francisco Bay. Henry Peterson and Thomas Crowley owned the two largest fleets. Companies like the Southern Pacific and Risdon Iron & Locomotive Works in San Francisco privately owned many more launches. Companies such as these might have needed to pick up workers and supplies across the bay, or to tow other larger vessels.

Launches were not exclusive to San Francisco, in fact, they were quite prevalent throughout the entire west coast. Their numbers were greater in San Francisco after the turn of the century due to the boom in shipping, railroad activity, industry, and the resulting population growth.

These vessels are not widely mentioned in maritime history literature, nor well known (except perhaps amongst maritime history enthusiasts) though they did play an important role in the shaping of history. And so the *Lucin* is found as only a simple entry in a Southern Pacific ledger at the California State Railroad Museum: "*Lucin No. 1* placed in service Nov. 1902."

All the Southern Pacific launches were hauled from San Francisco as needed, and numbered. The No. 1 behind the *Lucin's* name is an indication that she was the first fantailed launch hauled to the Salt Lake by Southern Pacific. It is also plausible that because she was the first real launch on the lake she would be named after the project itself.

The gasoline launch appears in many old photographs of the San Francisco waterfront, usually depicting a ferry or sailing ship as the main subject of interest, with the launch not mentioned. In all likelihood, the *Lucin* was among them, carrying a name (her original name) now lost to history. She was one of many gasoline launches, earning her keep in the bay until she was renamed in honor of the cutoff itself and hauled from San Francisco in 1902, to do her part in building the Lucin Cut-off.

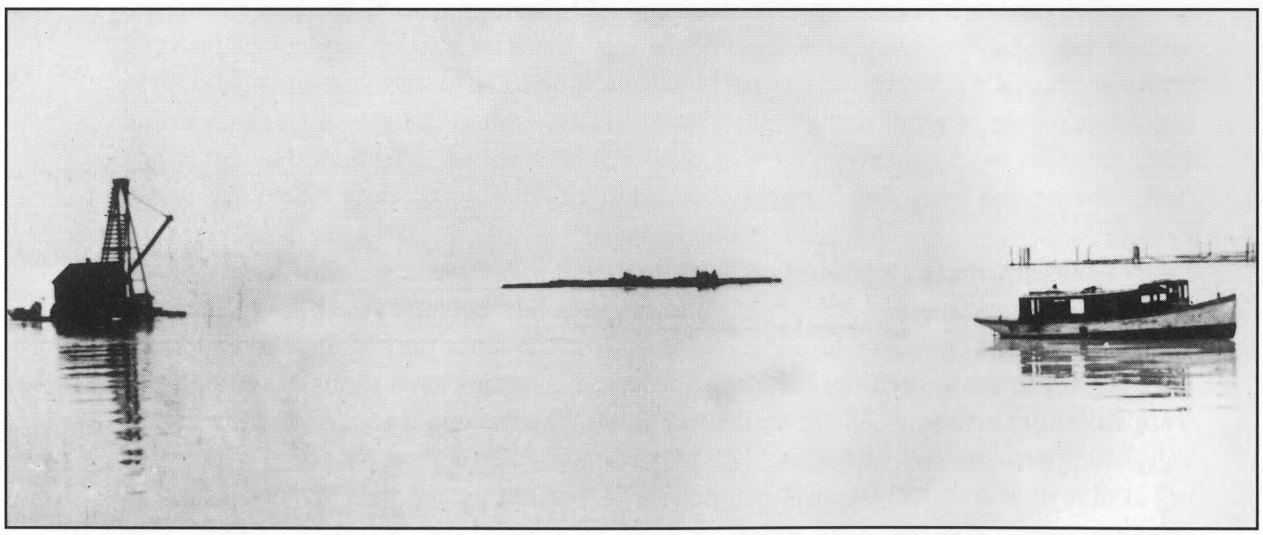
Southern Pacific's project on the Great Salt Lake was a good proving ground for the early gas-powered launches. The engines had become much more dependable since the first gasoline launches were built in the latter part of the 1800's. They were lighter in the water than the steam-powered launches even though their engines were still quite heavy. A 30-hp Standard engine, like the one that powered the *Lucin*, weighed approximately two tons. The largest engine that Frisco Standard was building at that time was 150-hp and weighed an incredible twelve tons. Though hard to imagine, steam engines were much heavier in comparison, weighing almost four times that of a gas engine, and usually required a larger vessel for an engine of relative power.

By far the biggest advantage of gas over steam at the time was economy. The initial cost of the gas engine was approximately half the price of a steam engine of comparable horsepower. Normally, a steam engine of 75-hp might cost eight thousand dollars, whereas the entire 75-hp gas boat, complete, could be had for less than six thousand. Although gas launches were slightly more expensive to operate due to fuel costs, they more than made up for it by not having the legal requirements of the steam driven craft. Steam craft required at least one captain and one engineer, whereas the gas boat required only one captain.

Another critical advantage of gas over steam was that steam required abundant fresh water, a commodity hard to come by in the Salt Lake Valley, and one already in great demand. Equipment working on the cutoff consumed a minimum of 500,000 gallons of water each day. Twenty-five pile drivers, numerous steam shovels, steam donkeys, and work trains were all steam powered. Congestion over the cutoff between the lake and Ogden made hauling water difficult. Consequently, much of the fresh water needed was hauled from Deeth, Nevada, to Lakeside, a distance of nearly 150 miles.

Without the constant need for fresh water and with its compact fuel storage, the gasoline launch had greater range, which is important on a lake of such size. It had more room as well, for hauling the workers and equipment.

Normally, a passenger launch for inland waters might not be heavily built; yet a launch that may have an alternate purpose of being a tugboat requires that the hull be very well built, indeed. This staunchness allowed the Southern Pacific to submit these vessels to much abuse, which included the journey by flatcar to the Great Salt Lake.



The earliest photo of one of Southern Pacific's launches on the lake, the *Lucin*, January 1903.
California State Railroad Museum, Collection: SPED b22 P.18 No.17221

April 27, 1903 - *Salt Lake Tribune*

There are now over a half dozen gasoline launches in the lake being used in the work - towing about the piles and supplies. Some of these were the large size and were built for the company by W. A. Boole and Son, of San Francisco. Harry Johnson one of the best known boatmen along the San Francisco water-front and star gasoline launch operator, has arrived in Ogden and will take charge of the largest of these launches for those having charge of the construction work.

Brought from San Francisco, the best that could be had, both in terms of launches and crews. Launches brought to the Great Salt Lake by Southern Pacific are as follows; *Lucin No.1*, *Galloping Tiger No.2*, *Risdon No.3*, *W.E. Marsh No.4*, *Emma No.5*, *Port Costa No.6*, *C.A. McNeill*, *Patanaran*, and *Bison*.
California State Railroad Museum, Collection:387-253 No.16983

April 29, 1903 - *Ogden Standard*

The employment of a fleet of launches renders it necessary to have a number of skilled engineers and boatmen. All of these men have been brought from San Francisco here and were among the most expert boatmen of the coast. W. J. Susan is in charge of all of the gasoline launches on the lake with H. S. Potts first assistant engineer. Mr. Susan was one of the first members of the Gasoline Engineers Association No. 1. of San Francisco and is one of the oldest engineers that has ever been employed as engineer of the newspaperman's boat, a position which he has occupied for seven years.

Looking west toward camp 9 & 10, an unidentified launch gathers a raft of piles to tow to the trestle.
Union Pacific Museum Collection

The *Risdon No. 3* tows two pile drivers to a new location. In the distance the trestle can be seen.
Union Pacific Museum Collection, #500354

Among the expert operators brought from San Francisco by Southern Pacific was Harry Johnson. Johnson had worked for Henry Peterson (a well known early launch operator) for ten years prior to leaving for Salt Lake, and when he returned he set up his own launch company, at the foot of Folsom street, near Peterson's business. His launches were *Anna H*, built in 1904, and *John A*, built by Cryer in 1907. Harry

Johnson became as famous for saving lives as he did for owning a competitive launch and towing service. By 1908, he had saved the lives of fifteen people in eight instances on the waterfront.

In 1912, Johnson employed "Pop" Anderson to build the forty-two foot *Active*, which became the newspaper boat for the *San Francisco Examiner*. In addition to his daily duty of hauling newspapers across the bay, it was also his job to assist the *Examiner*'s press members in capturing stories on the waterfront; and as might be expected from Harry Johnson, save a few lives in the bargain.

Reading the Corliss engine advertisement (see following page) one knows that the launch operators brought from San Francisco to build the Lucin Cutoff were indeed "the most expert boatmen of the coast". Close inspection of the photograph in the ad reveals the battered guards and rails of the *Active*, that in turn tell the story about the man at the helm. Captain Harry Johnson, willing to risk it all, vessel and life, to save the lives of others.

The advertisement was indeed a nice tribute to Harry Johnson, but contains a few errors. The *Examiner* did not own the *Active*; the owner was Harry Johnson. Johnson assisted the life-saving crew in saving the crew of the steamer *Eureka*, off Point Bonita (not the schooner *Bonita*). Captain Harry Johnson, like many other launch operators who were well known in the heyday of the gas launch, vanished from history with the changing of times.

Another launch operator who worked for Southern Pacific on the Lucin Cutoff was Captain Henry Thiemann. He did construction type towing on San Francisco Bay early in his career. He also organized the San Francisco Gas Engineers Association No. 471, in 1914. Henry Thiemann joined forces with Swente Johnston in about 1918 to become Thiemann and Johnston Launch and Tugboat Co. Henry Thiemann worked on virtually every bridge over San Francisco Bay, including the first: Southern Pacific's Dumbarton, where his brother- in-law William McNally was killed during construction.

William McNally was a key figure in Thiemann's life, not only giving him a start in operating launches, but also linking him to his sister who became Thiemann's wife. In turn, Henry Thiemann brought the McNally family from San Francisco to the safety of Oakland after the earthquake in 1906.

From their base at Pier 62 near the Third Street Bridge in San Francisco, Thiemann and Johnston towed lumber schooners through the cramped waterways of the Islais Creek Canal to be unloaded. Virtually all the schooners were too large to be turned around once they reached the lumber wharfs between 3rd and 7th street, and had to be towed backwards in one direction or the other. They also towed barges with scaffolds used for painting large ships; this they did for practically every major shipping firm in the bay. One of the historical high points of Thiemann and Johnston's company came when they were given the honor to tow the pennants for the Golden Gate Bridge. The pennants are the ropes that strung the first strands of cable that were then spun to over 36" in diameter to support the roadway. Thiemann and Johnston also towed the bridge sections for the San Mateo Bridge. Among the boats owned by Thiemann and

When Seas Are Raging and Lives and Property at Stake—

That is when you appreciate

CORLISS

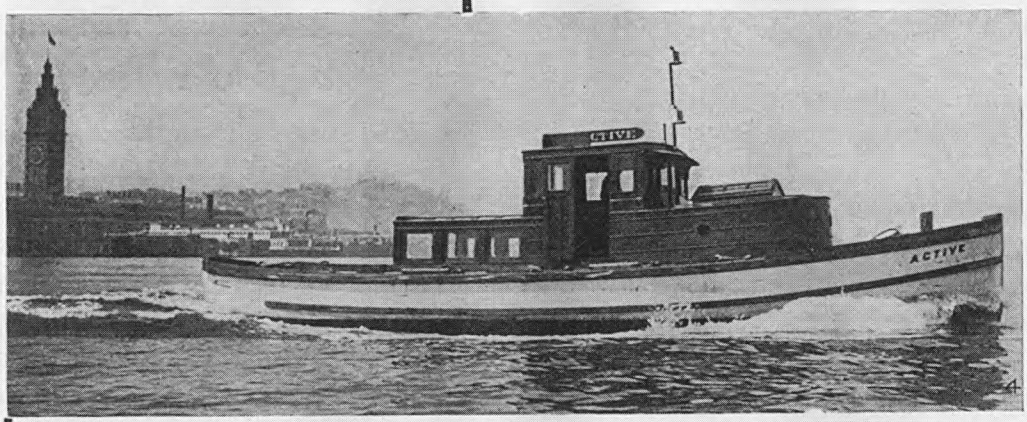
Reliability and Security

Examiner Launch to Rescue 12 Men Brought to Safety

TWELVE of the wet and weary survivors of the wrecked schooner Eureka were brought safely into San Francisco on "The Examiner's" tug Active, Captain Harry Johnson, last night, after a perilous transfer from the Fort Point lifeboat in the heavy channel seas. Meeting the lifeboat well out toward [illegible] Bonita, "The Examiner" men ashore," answered Capt[illegible] Clark. "They're the Eureka's crew."

The lifeboat was crowded to the last inch of its capacity with its own crew and nine of the Eureka's. Three of the Eureka's men the small boat behind.

The [illegible]



The "Active," Owned by the San Francisco Examiner. She is 50 ft. long and is Powered with a 50 h. p. CORLISS Engine

THE CORLISS TO THE RESCUE

WHEN the winter storm winds are blowing and the seas rage against the rocks outside of Golden Gate Harbor, and gallant ships, caught in the power of the storm, are thrown onto the reefs, the CORLISS powered launch "Active" is dispatched out through the Gate by her owners, the San Francisco Examiner, to get the news and to save lives wherever possible. On several occasions while other boats were helpless, the "Active," under command of her brave skipper, Capt. Harry Johnson, has been able to get close enough to wrecks to take off survivors.

Already credited with saving 29 lives off Duxbury Reef last November when the steam schooner "Hanalei" was dashed to pieces, the "Active" again distinguished herself on the night of January 8th by assisting the life-saving crew off Point Bonita in saving the crew of the schooner "Bonita" from certain destruction.

The performance of the "Active" is just one more reason why, before buying an engine, you should

COMPARE IT WITH A CORLISS The Most Modern Motor Made

CORLISS GAS ENGINE COMPANY

Head Office: 21-23 California St., San Francisco

Works: Petaluma, California *Eastern Office:* 64 Home Life Bldg., Washington, D. C.

Corliss General Distributing Agencies:

Alaska—Nome—Wagner Boat Co.; Juneau—Alaska Supply Co.; Ketchikan—George Cheney

British Columbia—Vancouver—Taylor & Young, Ltd.

Washington—Seattle—Pacific Net & Twine Co., Pier 8

Oregon—Portland—Gas Power & Supply Co.

Southern California—San Pedro—Marine Hardware Co

Hawaiian Islands—Honolulu—Henry E. Walker.

Fiji Islands—Suva—S. A. Griffen.

New Zealand—Auckland—Laird Bros.

Australia—Sydney—Claude Millar.

" —Hobart—Champion Cycle & Motor Depot

Johnston were the *Vona B, Herburt, Dispatch, Kokola, Galloping Goose, Mary C, Irwin,* and the *Active*, which was previously owned by Harry Johnson. The Thiemann and Johnston Co. was long lived and lasted into the 1960s, when it was sold to Bill Harris of H. and H. Ships Cleaning.

His son, Henry II, who worked as a young man with his father on the bay and later became an operator himself, gave the information on Henry Thiemann. There was yet a third Henry, operating several tour boats on Lake Tahoe, the *Tahoe Princess*, and the 120-foot *Tahoe Queen.*

The Challenge Continues

With launch operators like Harry Johnson and Henry Thiemann among the crews working out on the briny shallows, it would appear that the Southern Pacific had access to the best of everything. Yet it seemed to be making the task of building the Lucin Cutoff only barely possible:

> May 12, 1903 - *Salt Lake Tribune*
>
> Five hundred feet of permanent trestlework on the Ogden Lucin cut-off adjacent to the east shore sank yesterday while a train was passing over it and twenty cars were thrown into the filled in grade.

The accuracy of the above article is questionable. If the train derailed at the location specified and fell onto the filled-in grade, then this in itself would signify that the trestle was not permanent. Only one section of permanent trestle existed on the eastern arm of the lake. This 600-foot section was left open to allow the Bear River to escape into the Salt Lake. Though adequate for this purpose, it was inadequate for allowing the salty waters of the lake to mix with the fresh water in Bear River Bay. The following winter - for the first time since anyone could ever remember - Bear River Bay froze a foot thick with ice.

The only opening between the eastern shore and Promontory was this 600' section of permanent trestle, called the Bear River trestle, which still exists today.
California State Railroad Museum, Collection: SPED b22 P.50 No.17227

Not only was Southern Pacific faced with bad publicity and engineering problems, but fatalities increased along with pace:

June 8, 1903 - *Salt Lake Tribune*

> Charles F. Talbot, a brakeman of the Southern Pacific was killed yesterday at Promontory point. The particulars of the accident are not known, but the man's head is cut. The body was brought to Richie's Undertaking parlor and will be shipped east. He had relatives at Laramie, Wyo., and at Stromburg, Neb.

June 8, 1903 - *Salt Lake Tribune*

> The funeral of Taitano Tiano the Italian killed on the Lucin Cut-off last evening, will be held at Richie's undertaking parlor at 2 o'clock this afternoon. The body will be interred at Mountain View.

June 16, 1903 - *Salt Lake Tribune*

> The body of a man 'supposed' to be named Wilson was brought in from the cut-off last night and taken to Richey's undertaking parlor. He was drowned, and had evidently been in the water some days, as the body was in an advanced stage of decomposition.

June 17, 1903 - *Salt Lake Tribune*

> The body of the man brought in from the cut-off Monday evening has been identified as Gorden Whiteside, recently from Belfast, Ireland. This was learned from a letter which was found in his pocket, and was evidently from his sister, who signed herself (May). This letter taken from the deceased by the coroner Funk of Brigham City, who held an inquest on the remains Monday afternoon. It is not known how the accident happened, but it is supposed that he fell from the trestle. He had been employed as a grader at camp 13. The body was buried yesterday.

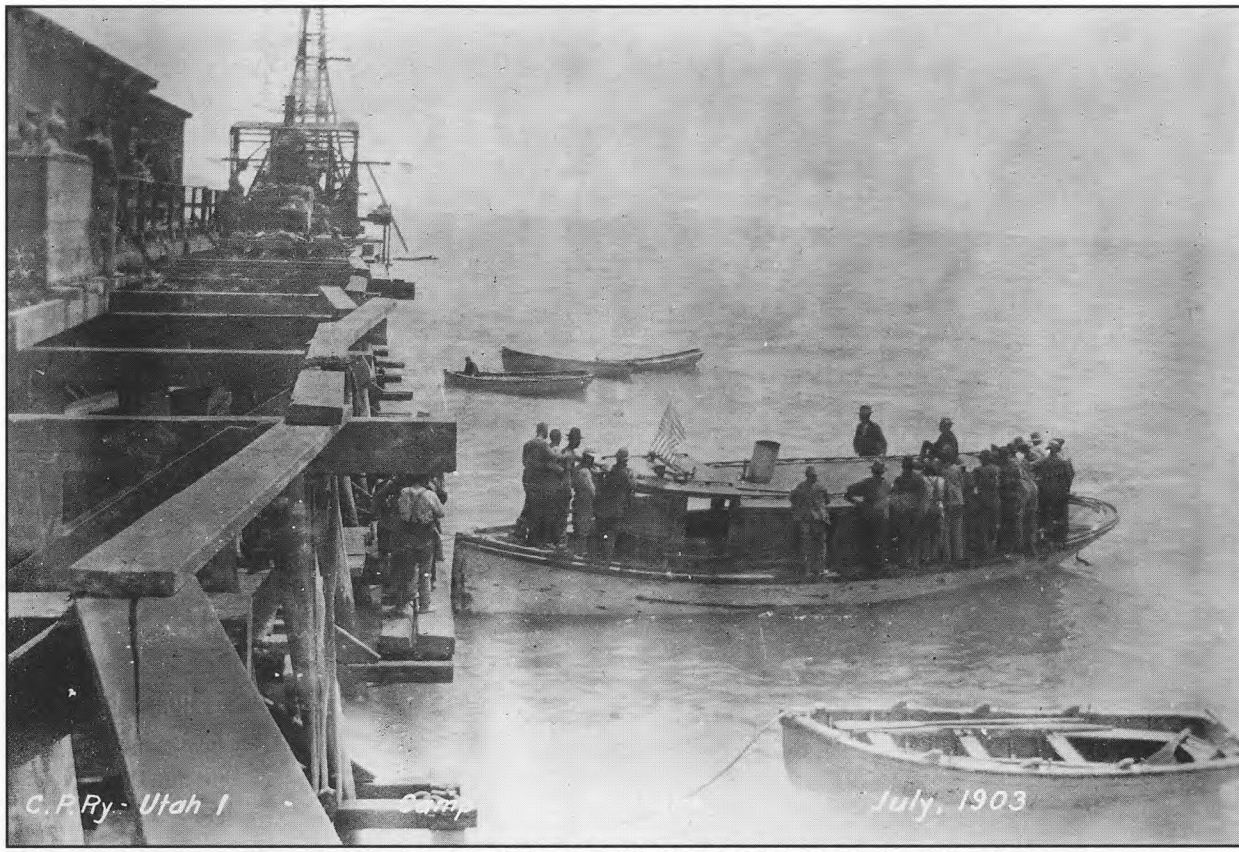
June 19, 1903 - *Salt Lake Tribune*

> A report reached the city yesterday afternoon of another death on the cut-off, but the name of the man or the particulars of the accident are not known. The man is said to have been a laborer and he was accidentally killed. The body was brought to the city this morning.

Southern Pacific ran a tight ship on the project. The men worked seven days a week, ten hours a shift. Also, no drinking was allowed out on the cutoff where the employees lived. July 4th fell on a Saturday that year, so Southern Pacific decided to give employees the entire weekend off to celebrate. It took several days to bring all the men in from the cutoff with the launches and work trains, and according to several accounts some never returned.

July 4, 1903 - *Salt Lake Tribune*

Laboring men from the cut-off were streaming into the city all day yesterday and last evening and the streets are literally lined with them. They came in to celebrate and they are spending their money as fast as they conveniently can, and the police anticipate a good deal of trouble on the lower Twenty-fifth street, commonly called the "Levee".



Crowded to almost beyond capacity, the *C. A. McNeill* shuttles a full load of workers between a camp near Midlake and Promontory during the 4th of July celebration.
California State Railroad Museum, Collection: SPED b22 P.50 No.17227

Despite the negative publicity, some articles showed a positive side of the employees:

August 21, 1903 - *Salt Lake Tribune*

Mrs. Trowe, living at Promontory point, was presented with a purse of 350.$ in cash by the employees of the Lucin cut-off on Tuesday evening. Mrs. Trowe is a plain nurse and at the same time a very kind hearted lady, and whenever one of the men was injured Mrs. Trowe would dress his wound and care for him during the hour of affliction. She has been an angel of mercy among the men, and in order to show their appreciation for what she had done for them a collection was taken up, with the result that 350.$ was raised. Capt. Shure, Jack Ward, Frank Kerman and R. C. Brooks were selected as the committee to

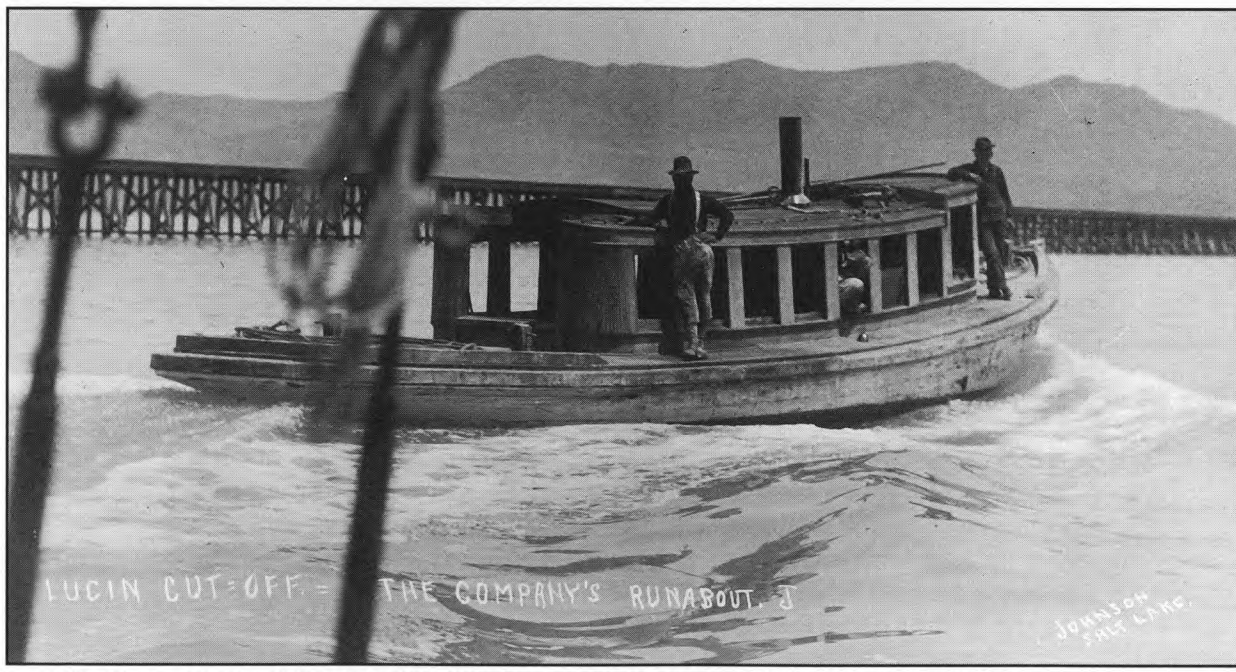
make the presentation, and the money was presented to Mrs. Trowe at her home Tuesday night.

August 22, 1903 - *Ogden Standard*

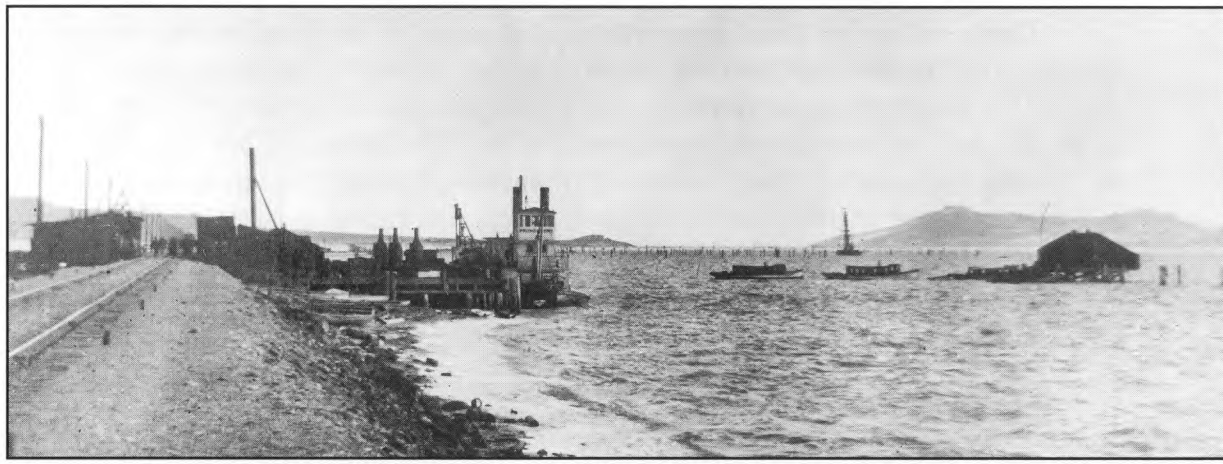
Last evening experienced a very strong gale of wind over the lake. It was a nor wester and brought a sprinkling of rain. At 5 o'clock yesterday morning a party on the gasoline launch "Emma" went out to the north to find four men who had left the evening before to select a sight for a beach combing camp. It was ascertained that the sail boat had capsized. Two of the party of four, who were in the sail-boat, clung to the bottom of the up turned yawl and drifted to the shores of Gunnison Island, where they were picked up by the crew of the launch. Mr. Robinson foreman of the beach combers, and one other man after almost superhuman endeavors swam ashore. A number of times they thought they would have to make their resting place in old Neptune's bosom. They too were picked up and taken to camp No. 10.

The quagmire near Bear River channel is causing the Southern Pacific Co. much trouble. It is expected that it will go down a few feet every two or three days. A crew is kept at work there all the time. The officials of the company are confident of finally getting a good solid road bed across the lake. Mr. Marsh when asked about the "sink", said, "There are a few more mountains around here that haven't been touched yet". He is determined to find bottom, if he has to go, through to China.

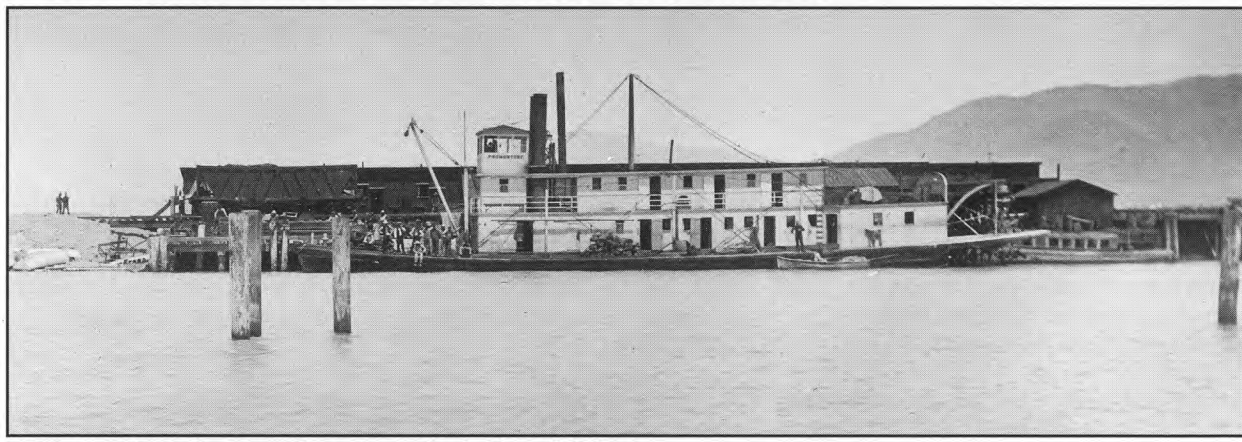
With the project in full swing and both temporary trestles being filled, a massive amount of earth, gravel, and rock was needed. The material was excavated from Little Mountain, Promontory, Lakeside, and Hogup.



The *Emma No.5* and her crew head back toward the company's boat house and pier, at camp 10 near Promontory Point. Thought to have been the boat Henry Thiemann skippered, the *Emma* saved the stranded beach combing crew from Gunnison Island after the yawl had overturned.
Manuscripts Division, J. Willard Marriott Library, University of Utah



Many work camps were established on the Lucin Cutoff and were numbered from east to west. Camp 10 which was just east of the trestle served as a docking facility for the steamer *Promontory*. To the right is Camp 9, where the launches were kept, and beyond that, Fremont Island.
California State Railroad Museum, Collection: SPED b22 P.63 No.17228



Camp 10 later became the telegraph station of Colon.
Manuscripts Division, J. Willard Marriott Library, University of Utah

A close up of camp 10 where the *Promontory* was kept when she was not working. To the right, two unidentified launches are sitting idle.
Southern Pacific Photo, Union Pacific Museum Collection, #500350

The beachcomber crews were organized to go out in the launches and retrieve the pilings and lumber that had been scattered across the lake by the heavy winds that plagued the project throughout this period. The importance of the crews was evident by the $15,000 per month cost to Southern Pacific. The *Lucin* and her sisters were built for the high winds of San Francisco Bay and would prove themselves invaluable in coping with the weather conditions on the lake, continuing to work while others drew their pay in idleness. The heavy salt content of the wind-driven waves could be especially damaging, breaking apart the log booms that contained the piles for the trestle.

Wind on the lake continually hampered progress on the Lucin Cutoff; here the launches are tethered together stem to stern at Camp 9 to avoid being battered against the pilings. The first three launches in the string are; *Risdon No. 3, Lucin No. 1,* and *Emma No. 5*. The salt from wind driven waves was also a problem for the launches. At times they became so encrusted with salt they had to be docked and steam cleaned.
California State Railroad Museum, Collection:387-253 No.15784

Anchoring to piles driven out in the lake was another way to avoid damage to the fleet in bad weather. Here the steamer *Promontory* sits with several of the launches silhouetted by the moon on a windy night.
California State Railroad Museum, Collection:387-253 No.16980

Huge waves batter the side of the Lucin Cutoff embankment. Note the large rocks used to keep smaller material from washing away.
Used by permission, Utah State Historical Society, all rights reserved Photo no. C525 #62

Looking west toward Lakeside from Promontory Point at one of the company's massive piling booms. In the distance can be seen Camp #9 bunkhouse near where the launches were kept.
Used by permission, Utah State Historical Society, all rights reserved Photo no. C525 #30

Looking east toward Promontory Point. By October, 1903 the pile drivers were closing the last gap. Southern Pacific pile driving crews worked very hard through the summer months to keep the cutoff on schedule. At one point the piles were driven so fast the trestle grew at a rate of over a thousand feet per day for five consecutive days.
California State Railroad Museum, Collection:387-253 No.16978

High winds were not the only problems facing the work crews:

> September 21, 1903 - *Deseret News*
>
> Details of a fire at Promontory Point on the Lucin Cut-off have reached here. The fire was started in the coal bins by spontaneous combustion and the entire bins with their coal were destroyed causing a loss of $10,000. The freight and storage house and camp houses were twice on fire but the men succeeded in saving them.
>
> September 26, 1903 - *Salt Lake Tribune*
>
> Allen Powsen, an employee of one of the steam launches on the cut-off, was instantly killed Thursday night on the lake. Powsen was afflicted with heart disease, and a fainting spell coming on him, he fell into the flywheel. The skull was crushed by the wheel and the bone torn away so as to expose the brain. The body was brought to Larkin's Undertaking Parlors, where it has been prepared for shipment to Missouri, where the man's relatives reside.

Articles like the previous cause one to wonder if similar events occurred aboard the *Lucin*, and of course the answer is yes, they may have. But there is no way to know for sure, since news reporters of the time seemed to see the launches in non-specific terms, their individual names often not mentioned, even though something significant may have happened to one or another of them. There were catastrophes, but there was also cause for celebration:

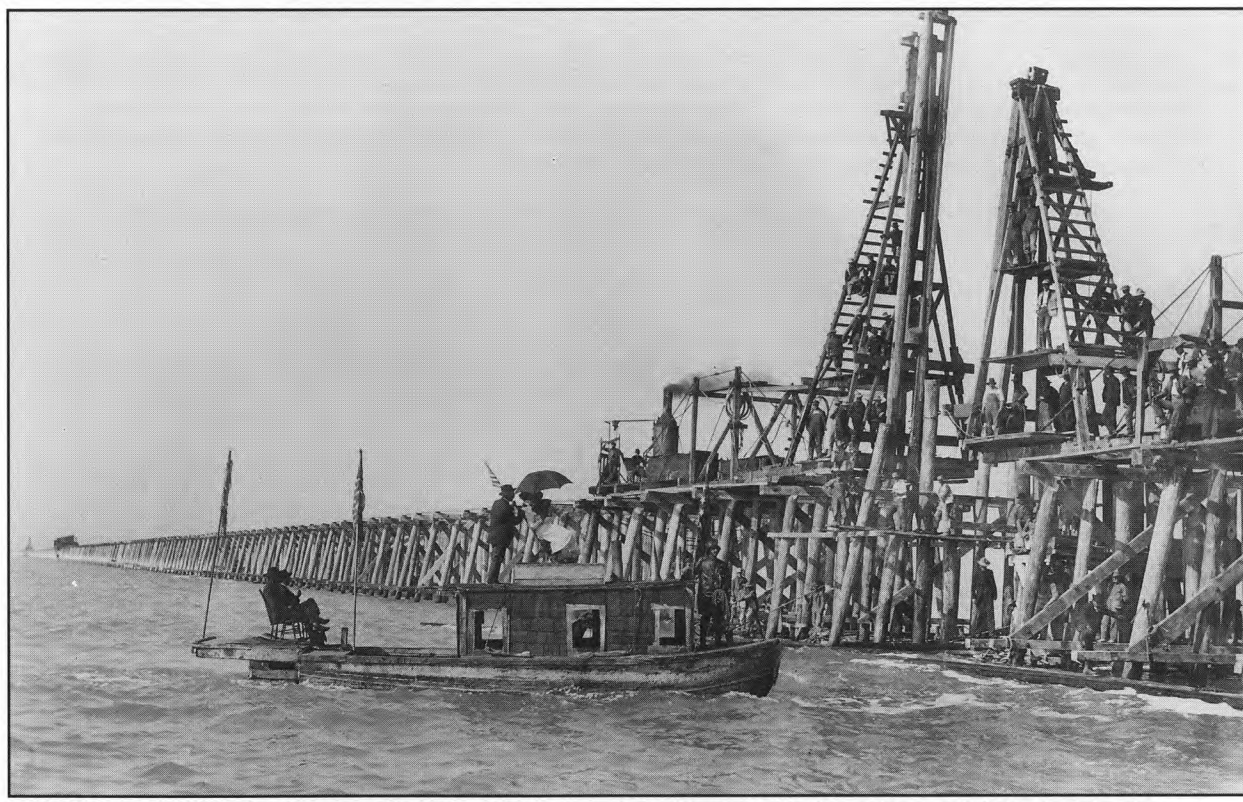
October 27, 1903 - *Ogden Standard*

BOTTLE OF CHAMPAGNE IS CRUSHED BY GIGANTIC HAMMER ON THE TOP OF THE LAST PILE

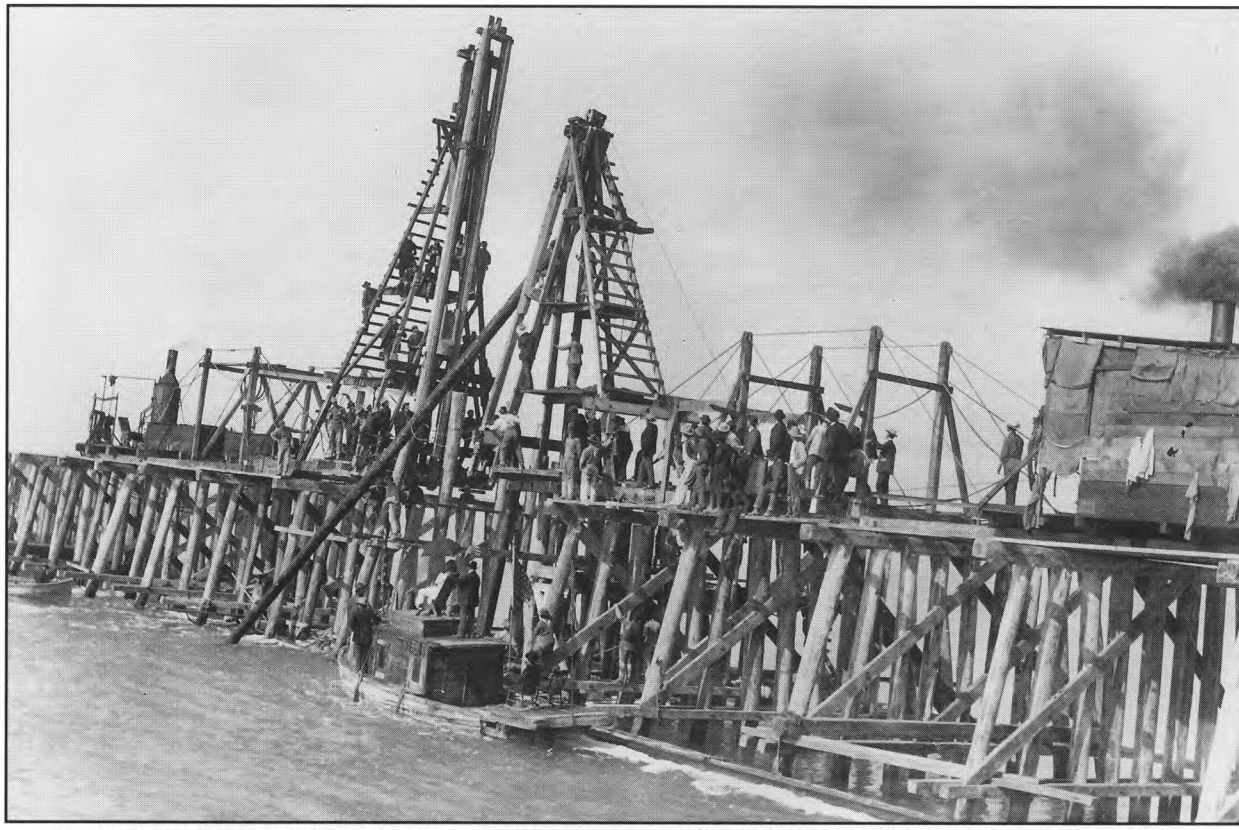
Practically the last gap on the Ogden Lucin cut-off was closed yesterday at noon with the driving of a pile between camps 19 and 20 on the west arm of the lake. Nearly every employee along the line who was able to get away from his own duties gathered at the point to witness the last act in pile driving, which practically closed the trestle work.

The driver sent the pile down as far as possible and then Mrs. 0. Ogden wife of Superintendent Ogden of the cut-off work, held a bottle of champagne out over the top of the pile and the last blow of the gigantic driver broke the bottle, on top of the pile and the liquid drenched the pile.

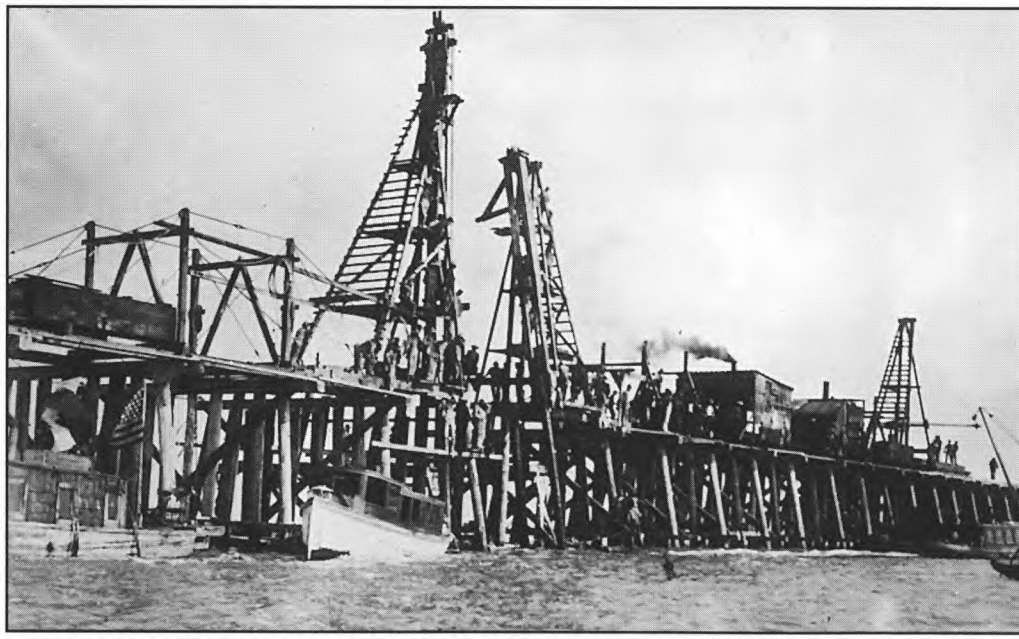
The ceremonies ended in an appropriate but quiet celebration among the men. While the pile driven yesterday practically completed the line of trestle work there still remains nearly two miles of stringers, flooring and rails to be laid before the cut-off direct is completed ready for the crossing of trains. These will be completed within the next two weeks and all will be in readiness for the opening of the cut-off on the arrival of president Harriman on November 20.



With her paddle wheel removed and a shack of sorts built aboard to keep her useful during the deep water part of the project, the *Tiddley Addley* brings Mrs. Ogden and company to the trestle between Camp 19 and 20.
California State Railroad Museum, Collection:387-253 No.16975



The last piling being lifted into place. Notice the area of the *Tiddley Addley* where the paddle wheel was, now prop driven and decked-over to accommodate, oddly enough, the two men on rocking chairs.
California State Railroad Museum, Collection:387-253 No.16985



A crowd of workers line the edge of the trestle and climb the pile drivers for a better view as the last pile is driven. The launch in the middle of the photo is the *C. A. McNeill,* to the right is the *Risdon No. 3* and the *Promontory.*
Southern Pacific Photo, courtesy of Publishers Press

Mrs. Ogden holds up the bottle of champagne that she will place atop the last pile, so that when the 3,200 pound hammer delivers the last blow, the bottle will be crushed. Standing beside her is William E. Marsh, engineer in charge of construction.
California State Railroad Museum, Collection:387-253 No.16969

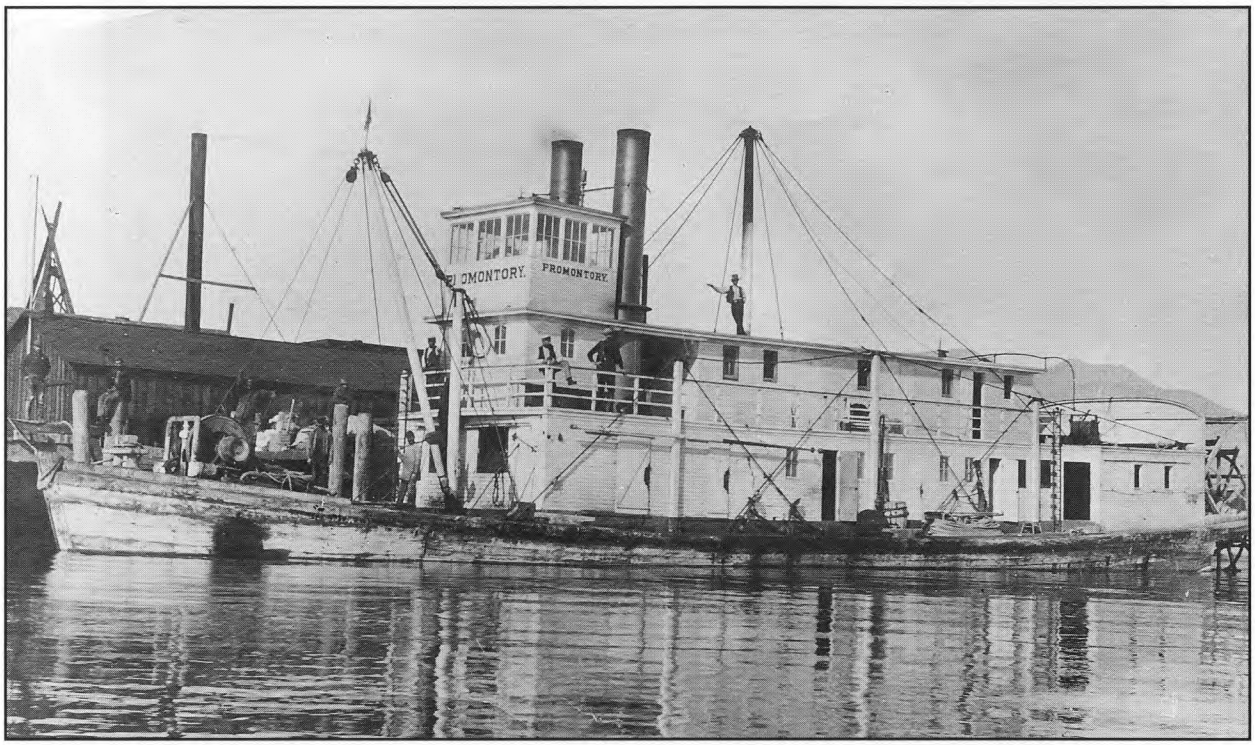
And then more catastrophes:

October 29, 1903 - *Deseret News*

There were strenuous times on the Ogden Lucin cut-off a few nights ago owing to the explosion of a big tank of gasoline. According to the story of a gentleman who today returned from the scene the surface of the Great Salt Lake was for the space of half an hour a veritable lake of fire. Before the small army of men who gathered to the scene could get the flames extinguished, a big tug was burned to the waters edge. The big steamer *Promontory* was threatened with total destruction, a number of smaller boats were badly scorched and a great deal of lumber and piling was damaged by fire.

The fire was occasioned by a man investigating a tank of gasoline on the tug by lantern light. The inquisitive fellow escaped with a number of burns and left the immediate vicinity just prior to the tug blowing up. When the big

pyrotechnics eventually came off there was a great spectacle. The flaming liquid spread with alarming rapidity over the water and in a few minutes the steamer *Promontory* was alight in a half dozen places. Then followed a lively scramble to get the rowboats out of the way, while men fought the flames on the big boat which is nearly as large as the old Garfield steamer. The tug that was a total loss was one of the biggest in the lake service and was propelled by an engine of 75 horsepower.



This photo was taken in October just after the fire at Camp 10. Notice the burn marks still quite visible on *Promontory's* hull. As often in turn of the century photographs, people posed with the implements of their stock and trade. Here the man on the fore-deck of the *Promontory* holds a shovel over his shoulder, undoubtedly one of the stokers. The man on top is most likely the top man, Charles W. Schuler, Master Mariner and Captain of the steamer *Promontory*. On the deck below would be the second in command and so on.
Southern Pacific collection, courtesy of Lynn Farrar

According to the *Ogden Standard*, the fire of October 18th destroyed the gas launch *Galloping Tiger No. 2*. The dock and other boats, though scorched, were spared by the gallant efforts of engineer Story, who pulled the burning vessel away from the dock with the launch, *Risdon No. 3*. The storage house containing 500 gallons of gasoline, or "bottled up hell fire" as they put it, did not catch fire. If it had, this could have cost the Southern Pacific the bulk of its Salt Lake fleet.

By the middle of November, the first work train had run the entire length of the Lucin Cutoff. Talk of the official opening had gained public attention and people

On November 13, 1903, workers make ready to cut the last rail, completing the connection and making the line continuous over the Lucin Cutoff. Marked no. 1, W. E. Marsh stands in the center of the photo overseeing the cutting of the rail and the driving of the last spike.
California State Railroad Museum, Collection:387-253 No.17382 P43

were readying themselves for a grand procession, which was to occur on Thanksgiving Day. Railroad officials would be there and Harriman himself would drive the golden spike, or so they said. In the mean time, others less famous took advantage of the completed track across America's inland sea:

November 20, 1903 - *Ogden Standard*

A party of ladies has already crossed the lake on a work train over the trestle work and they are proud of the fact that they are the first women to cross over the practically completed cut-off. They are K. R. Bailey, wife of a locomotive engineer, and Mesdames, Pike and Beaty, wives of two of the trainmasters. All of them are residents of Hogup. The ladies were in Ogden last evening and gave a graphic description of their experiences and the excitement and pleasure of the trip.

On November 25th, sixty of the most important railroad magnates arrived in Ogden for the official opening of the Lucin Cutoff, which was to be held the following day. On November 26th, the cutoff was officially opened, commemorated by a simple drive over the new road with a few stops along the way. Harriman decided against the traditional golden spike, in fact, even the formal ceremonies were dispensed with.

The sixty high officials rode in fifteen private railroad cars. An additional five cars accommodated the guests and the press. The three trains stopped at mid-trestle where Foster's Military Band played the "Star Spangled Banner" and pictures were taken. At one point during the mid-trestle visit someone asked Harriman if there were going to be any ceremonies. Harriman simply replied, "There won't be any ceremonies. We haven't time for them."

Sixty high railroad officials pose for photographs at mid-trestle. Harriman stands on the right with his hand on a post. Among others in the photograph are W. E. Marsh, left, near the rear with a cigar in his mouth. Future Vice President of the combined lines, Judge Robert S. Lovett, stands in the forward left of the photo to the right of the man with a cigar in his gloved hand, and William Hood, just left of the right rail wears a bow tie.

Union Pacific Railroad Museum Collection, No.500563 Stimson #845

Meanwhile, work on the cutoff went on as though nothing had happened. Pile drivers were at work bracing and strengthening the permanent trestle, while the temporary trestle over the Bear River Bay was still being filled in. Switches and signals were being installed and work had begun on Midlake telegraph station, requiring more pilings still. As the work stretched into the new year, unfortunately, so did the deaths:

January 23, 1904 - *Ogden Standard*

THREE GREEK LABORERS KILLED IN A WRECK

Rear-end Collision Between a water train and a Gravel Train, on the Cut-off This Morning Results in Three Fatalities—Six others are Badly Injured.

The names of the laborers were: Milo Cigonovich, Don Nickovich and Marke Asketa. The men were killed at 4 a.m. on Promontory Point.

On February 19, 1904, at the station of Jackson on the Lucin Cutoff, there was yet another collision between a gravel train and water train. The westbound gravel train was pulling off onto a siding when the eastbound water train, unable to stop, impacted the part of the gravel train still on the main line. The force of the collision caused a fire that detonated two cars that were loaded with dynamite and black powder. The resulting explosion, five minutes after the wreck, killed 28 people, most of who were Greek laborers:

February 20, 1904 - *Salt Lake Tribune*

Those who have reached Ogden say that the scene of horror and desolation at the place of the disaster is simply indescribable. The ground upon which the trains were standing was torn up for over 1000 feet, leaving a great excavation 30 feet in depth, fragments of the shattered cars were thrown for incredible distances over the surrounding country, the station building was reduced to ruins and afterwards burst into flames, the fire completing the destruction which the powder had begun . . .. The explosion was terrific, and the town of Terrace, 15 miles to the north on the main line of the Southern Pacific, was shaken as by an earthquake. The telegraph station at Colon, 55 miles distant, had every window pane broken.

On February 23rd, a coroner's inquest was held:

February 24, 1904 - *Salt Lake Tribune*

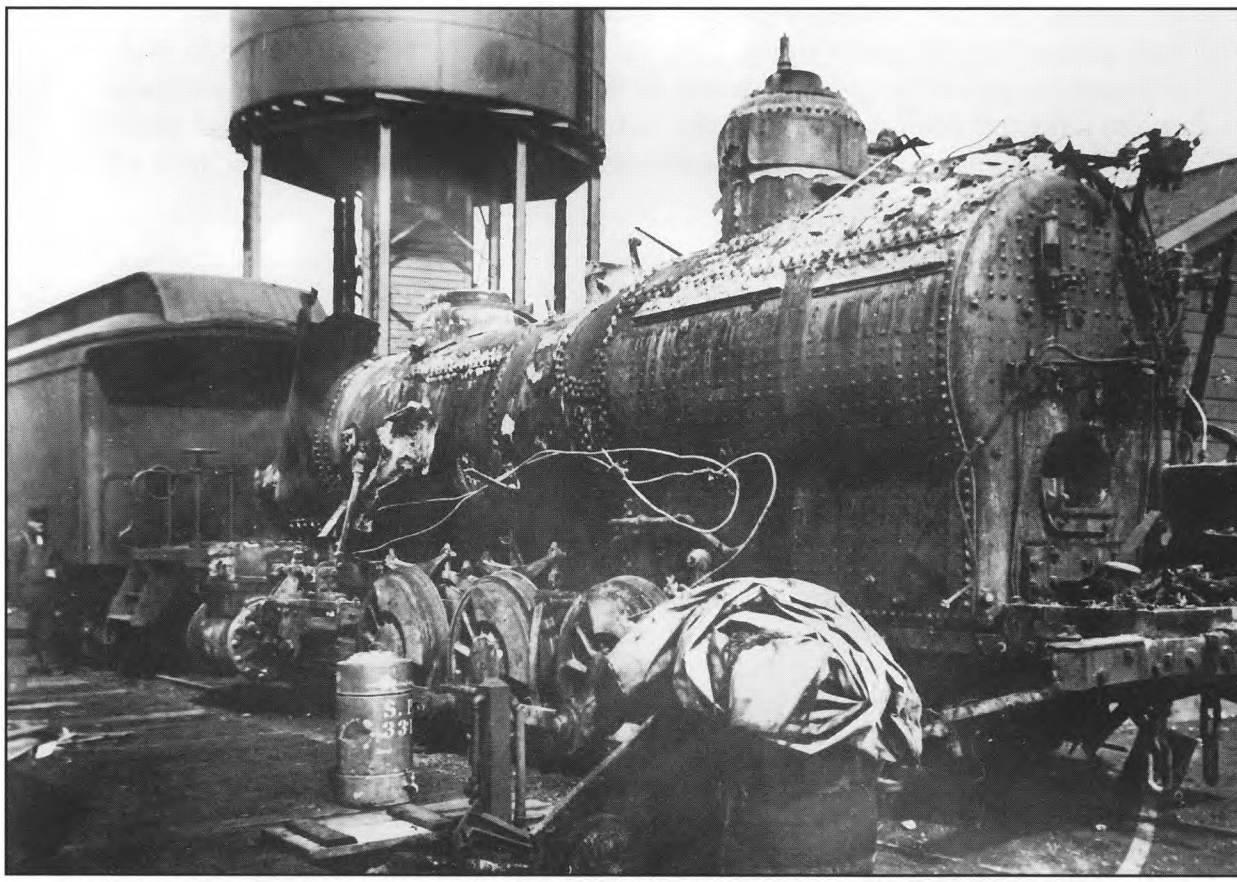
George Vosberg, being sworn, testified that he was a brakeman on the water train, going east. He was riding on the engine until he saw that the air did not work and Engineer Luna whistled for brakes. He then got out on the cars and set three brakes and jumped off when he saw they could not stop in time to prevent the accident. In about five minutes after the collision the explosion came. He thought no one was to blame for the accident, as the air did not hold.

A. H. Reed was the next witness, who told about the same story. At the time of the explosion he was in the caboose of the other train, making out some papers, but he immediately went out to see what damage was done.

Before he could get to the other end of the train the conductor of the water train, Dermody, shouted to them that he had a car of powder on his train, but before they could go any distance the explosion came, and he could not tell how it happened that he was not killed. When asked if he thought any one was to blame, he said he did not know.

February 20, 1904 - *Salt Lake Tribune*

A majority of those killed were Greek laborers, although many of the victims were English-speaking people. Among the latter are: Owen Dermody, conductor, from Beaver Dam, Wis., who lived for one hour and died on the train as he was being taken to Ogden. Thomas W. Burke, roadmaster, his wife and three children. W. J. Burke, brother of the roadmaster, and general track foreman. William Haller, mail messenger, Andrews, Ind.



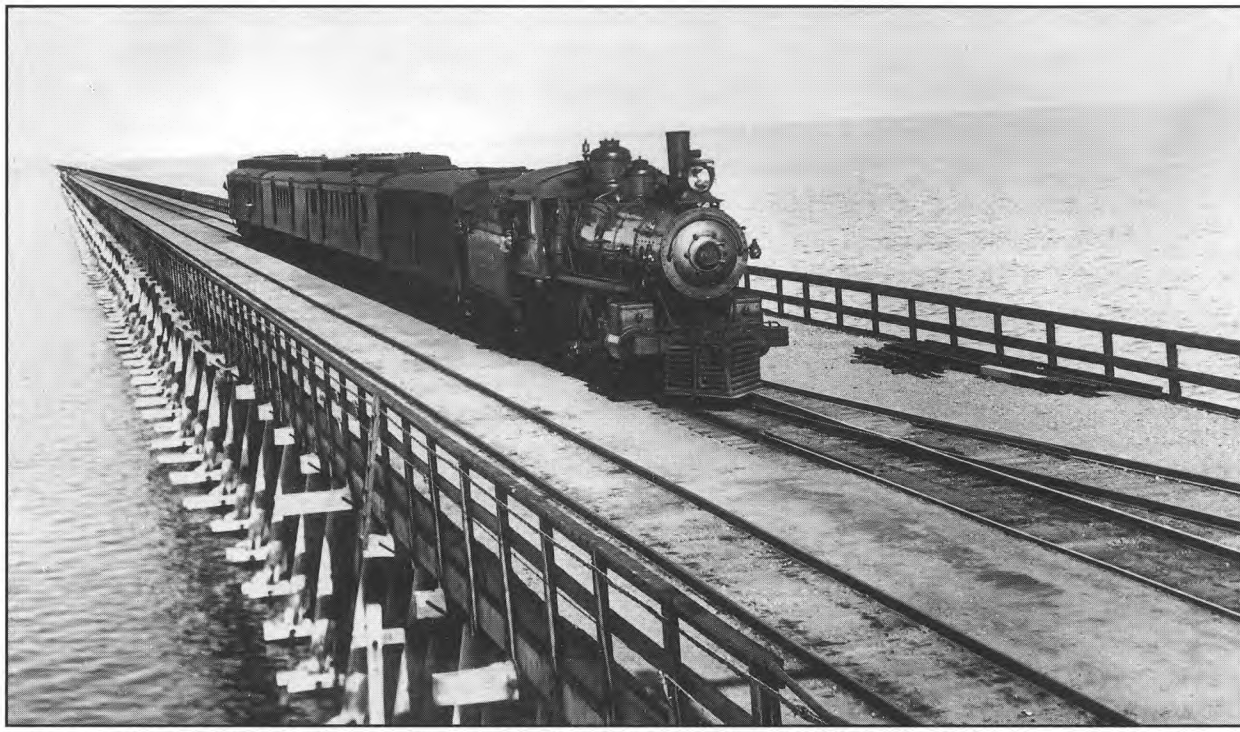
Conductor Owen Dermody's locomotive No. 2833, after the Jackson explosion in which 28 people were killed. Of the 46 people at the station of Jackson on the Lucin Cutoff when the explosion occurred, only nine were fortunate enough to escape without injury. Five were members of a freight crew pulling into the station a quarter of a mile away. By far the most fortunate was a Greek laborer, who, though blown over a freight train and landing some 200 feet from the explosion, escaped with only minor injuries.
California State Railroad Museum, Collection: SPED b22 P.89 No.17230

The names of the Greeks were not made available to the newspapers after the accident because a majority of them were identified by a number only. Proper identification was pending an interpreter who could produce an accurate list.

Many of the 3,000 workers involved in the building of the Lucin Cutoff were non-English speaking immigrants, many of who were issued a number for the purpose of identification and payment. In this way Southern Pacific could pay the immigrants on a cash basis. In fact, it was feared by the newspapers that some of the immigrants who missed the company pay-car were being taken advantage of by merchants in the city. When they didn't get their vouchers cashed by Southern Pacific they would take them into town to cash or trade. The newspapers claimed that many of the immigrants were not receiving full face value for their Southern Pacific cash vouchers.

It wasn't until March 8, 1904, (three and a half months after the official opening) that the first freight train rolled over the cutoff. Thirty-five cars carrying tea from the west marked the actual opening of the bridge to freight traffic. Delays in the opening were due to bad weather and the cutoff's continual settling.

Three inches of asphalt roofing was laid down over the trestle's heavy decking, and then ballasted with fourteen inches of gravel and rock.
California State Railroad Museum, Collection:387-253 No.16976



The newly completed trestle was single tracked, but had a siding at Midlake for trains to pass each other.
Used by permission, Utah State Historical Society, all rights reserved Photo no. 763

The finished roadway (looking east From Lakeside towards Promontory). The piling booms were kept on the south side of the fill to protect them from the harsh northerly winds.
Used by permission, Utah State Historical Society, all rights reserved Photo no. 17884

The grade over the Bear River Bay was finally beginning to stabilize, operating for four full months at a foot to eighteen inches below the desired elevation without settling. However, when the fill was finally raised to the required height, the grade promptly dropped eight feet. This would prove to be the last breath of the Bear River sink, for it was again raised to grade and there it remained. This success came at a good time, because Southern Pacific engineers were also in the midst of a struggle with a sink on the western arm of the lake at the future telegraph station, Rambo.

Accurate records of the settling at Rambo were kept beginning in April, 1904 and out of the next 282 days only nineteen were free from entries describing the failures of the grade. Though many of the failures were relatively minor, some were reported to have been as great as four and a half feet in vertical distance. The horizontal length of the failures also varied, from as little as two hundred feet to as long as eleven hundred. Many of the entries were made on the same day, seven recorded on the 23rd of August, which was an exceptionally black month — only one day of that month Rambo failed to sink.

The famous pilot engine for the Harriman Special lies mired on its side at Rambo sink. In the background can be seen the height of the grade before it failed. The actual sinking of this particular section took approximately twelve minutes. Some of the uplifts were so extreme at Rambo that they stretched out 300 feet on either side of the fill.
California State Railroad Museum, Collection: SPED b22 P.54 No.17231

Here the track has been raised. The only sign of the sinking grade is the uplifts from which the photographer took the picture. To the right of the dump cars are some of the 3000 workers employed on the Lucin Cutoff.
California State Railroad Museum, Collection:387-253 No.16981

Workers mill about near an overturned locomotive at Rambo sink, yet another failure of the grade.
Used by permission, Utah State Historical Society, all rights reserved Photo no. C-525 #38

Scene at Rambo sink looking west toward Lakeside.
Used by permission, Utah State Historical Society, all rights reserved Photo no. C-525 #36

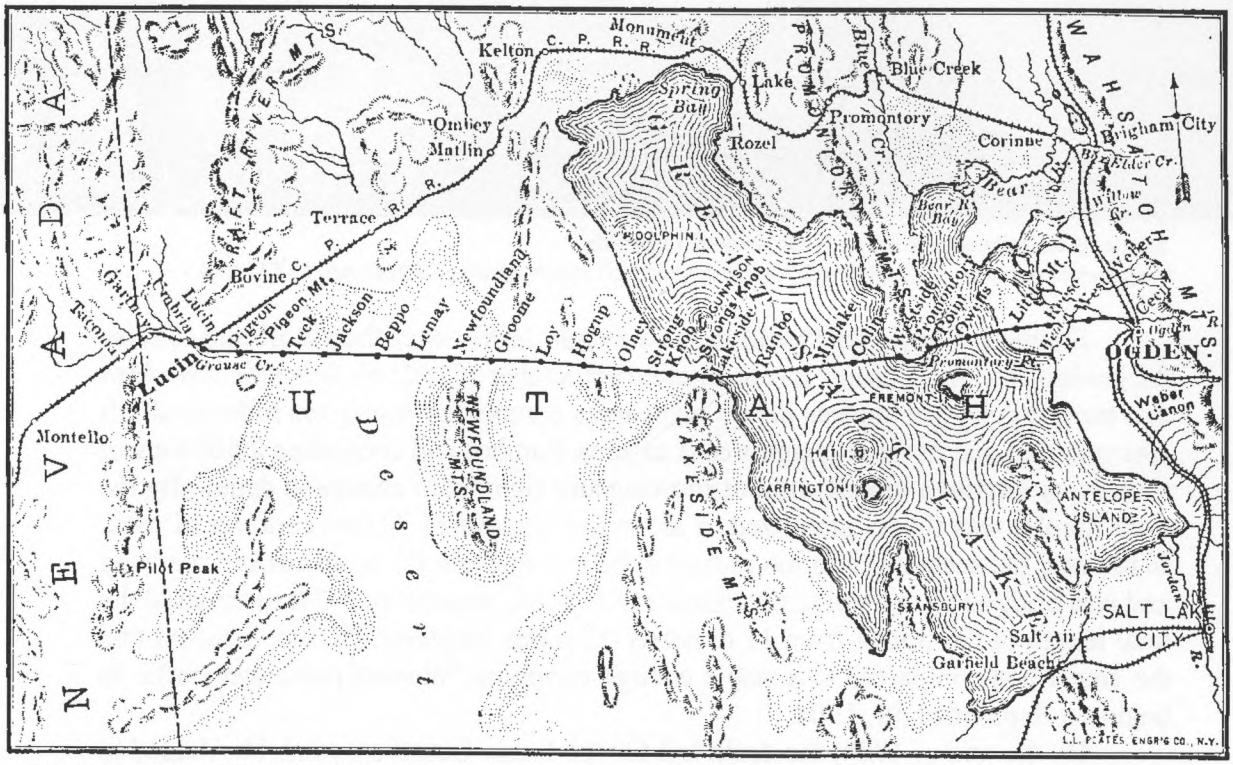
Southern Pacific continued to push freight traffic over the cutoff and to raise the grade after each settling. It was reported in October of 1903 by *Scientific American* that the principal trouble was in two main areas comprising nearly ten miles in all. It was said that one of these quagmires (I assume Rambo) had consumed 2,500 tons of rock every day for a month without showing any significant change in depth. By the time Rambo was finally stabilized, it alone had consumed 70,000 carloads of rock. In the end, the section at Rambo proved to be too unstable for an embanked roadway and was bridged by extending the trestle a mile on its western end. This increased the total length of the bridge from 11 to nearly 12 miles. Southern Pacific, satisfied that the cutoff had compacted to a stable enough condition, allowed passenger traffic to begin on September 19, 1904.

By the end of 1904, the death toll for the Lucin Cutoff stood at 44. Added to the previous toll were J. L. McFarland, drowned; James Woods and J. Manning, hit by separate trains at Promontory; and Mike Slavich, killed by a boulder, also at Promontory.

Though the first cost estimates given for the building of the Lucin Cutoff were from two to three million dollars, the eventual cost of the completed project exceeded eight million. Even though traffic was greater over the new route for the month of January 1904, it was estimated that the Southern Pacific saved $61,000 in operating expenses as compared with the same month of the previous year. If such savings could be maintained, it was projected that the cutoff would pay for itself in eight years. The savings were due to the gradual grade and straightness of the track—a sharp contrast to the old 1869 route. This section of track was 102 miles long and virtually straight. Not only was the Lucin Cutoff deemed the longest, straightest section of track ever laid, it also included the longest railroad bridge in the world.

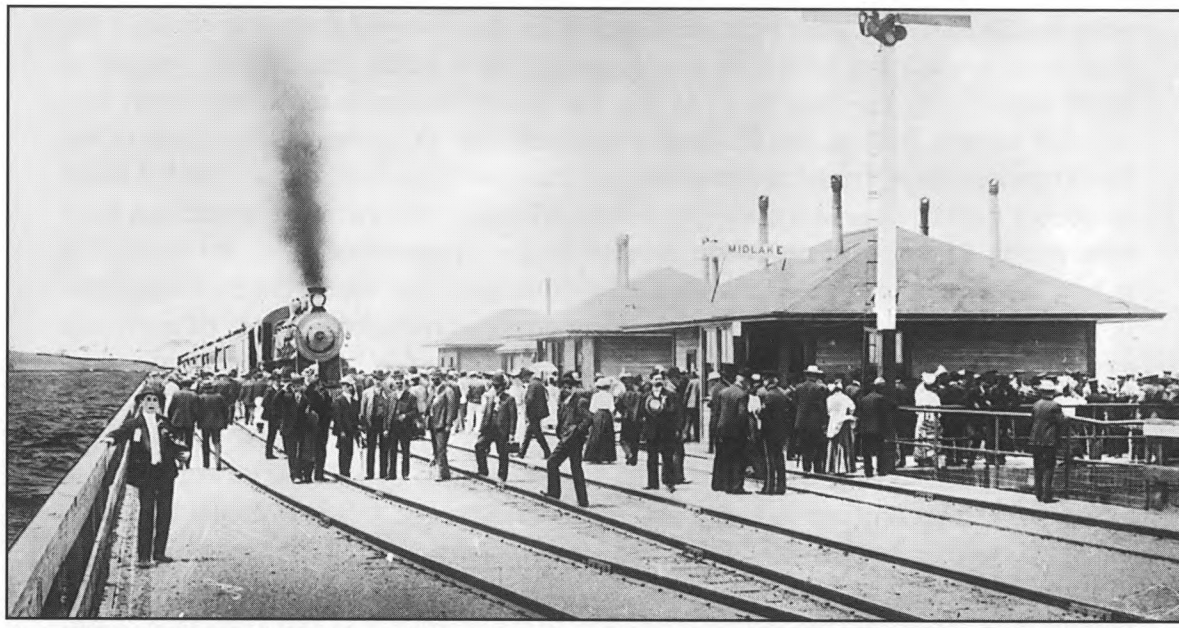
Harriman, Hood and Marsh were successful in their endeavor to engineer a shortcut across the lake despite what the experts claimed about the feasibility of construction. Some railroad experts felt the cutoff would not be practical due to the

congestion it would create, insisting that not only would the chance of blocks exist, but that accidents would be likely. Harriman obviously heard what was said, and rather than not build the cutoff, he included numerous stations and sidings. There were twenty-two stations along the new road, each of which had over a mile of side-track.



Engineer Marsh and Superintendent Ogden spent a great deal of time at the company's headquarters at Hogup, located 14 miles west of the west shore and served as a central supply storage station and gravel quarry. In addition to those in the engineering department and train service at Hogup, there were approximately 300 employed in the train pits.
Century Magazine January 1906

On the old 1869 route, a freight train hauling 950 tons might take as long as thirty-six hours to make the distance between Lucin and Ogden. The steep pull over Promontory summit required three engines. Speeds on this ascent never exceeded 12 mph. On the Lucin Cutoff, a single engine pulling 2,360 tons of freight might make the trip in less than ten hours. A passenger train on the old route would need to be broken down into three sections, each one requiring two engines to pull the grades. On the cutoff, a passenger train hauling seventeen coaches required only a single engine.



Excursion party at Midlake about 1908. Once the main roadway was finished, a platform 80 yards long and 40 feet wide was constructed, on which a telegraph station was built. Originally known as Camp 20, Midlake stayed in operation for 41 years and had a population of thirty. Due to centralized traffic control from land and the extreme danger of fire, the buildings at Midlake were taken down, at about the end of World War ll, but the station point remained until after 1982.
Southern Pacific Photo, courtesy of Publishers Press

It was said that when one of those passenger trains was going over the Lucin Cutoff, a lady seeing the incredible uplifts on either side of the track, turned to an engineer who was riding with her and said, "How fortunate it was that you found those little islands!" "Found them!" cried the engineer. "It took us two years to make them!"

W. E. Marsh Engineer

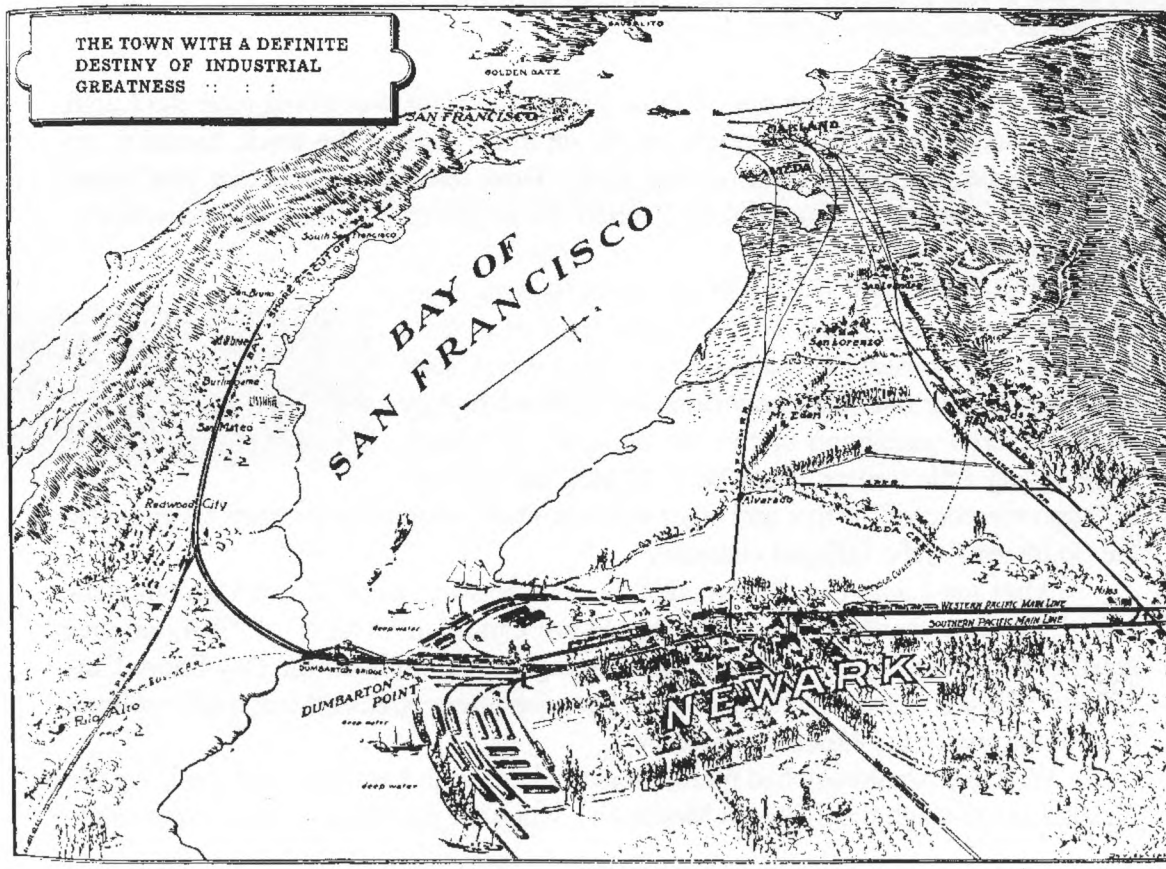
"The 'little man' - W. E. Marsh, the Engineer in supreme control" was found written on the back of a photo of Marsh. Phenomenal as the building of the Lucin Cutoff was, only a few publications written on railroad history include a brief paragraph or two on the feat. Similarly, there is very little written about W. E. Marsh, the engineer in "supreme control" of this and other monumental construction projects taken on by the Southern Pacific railroad company.

After the Lucin Cutoff was added to the growing list of Marsh's accomplishments, he set to work building the Bay Shore Cutoff in October of 1904, another massive Southern Pacific undertaking. Huntington had initiated the Bay Shore Cutoff also. He purchased the right-of-way, but soon after concluded that traffic volume would not justify the expensive project.

W. E. Marsh already had plenty of experience with tunneling after building the Shasta Line through the Siskiyou Mountains, when the company took over the enter-

prise in 1887. There were eighteen bores in all that weaved their way through the Siskiyous; the summit tunnel, at an elevation of over 4,000 feet, was the longest at 3,108 feet. So by the time W. E. Marsh was placed in charge of boring nearly two miles of tunnels through five different ridges and hills along the western shore of the San Francisco Bay, it must not have seemed that great of a feat to him. The 9.7 miles of double trackage saved a distance of only 2.7 miles and therefore would not have been worth the cost; however the savings to the company came in the form of a nearly level track made possible by the five tunnels. The thirty-five foot wide tunnels, arched with brick, and floored with concrete, were bored at a rate of eight feet per day, raising the price of the Bay Shore Cutoff to roughly a million dollars a mile.

Even before the Bay Shore Cutoff was opened to traffic on December 8, 1907, William Marsh had begun the new Dumbarton Draw Bridge project, the first bridge over San Francisco Bay. The Dumbarton Cutoff spanned over a mile of water on San Francisco's lower bay and included a swinging drawbridge, trestlework and fill which extended out over two more additional miles of marshland. The shortcut chopped 50 miles off the run around the south end of the bay, making it practical to avoid the tedious task of ferrying the freight trains across the waterway to San Francisco. Construction photographs of the Dumbarton Draw Bridge reveal the launches *Emma* and *Risdon*; it is also very likely that the *Lucin* was used on this project, yet no photographs have been found.



Map showing the Dumbarton and Bay Shore Cutoffs
Overland Monthly, illustration Oct. 1907

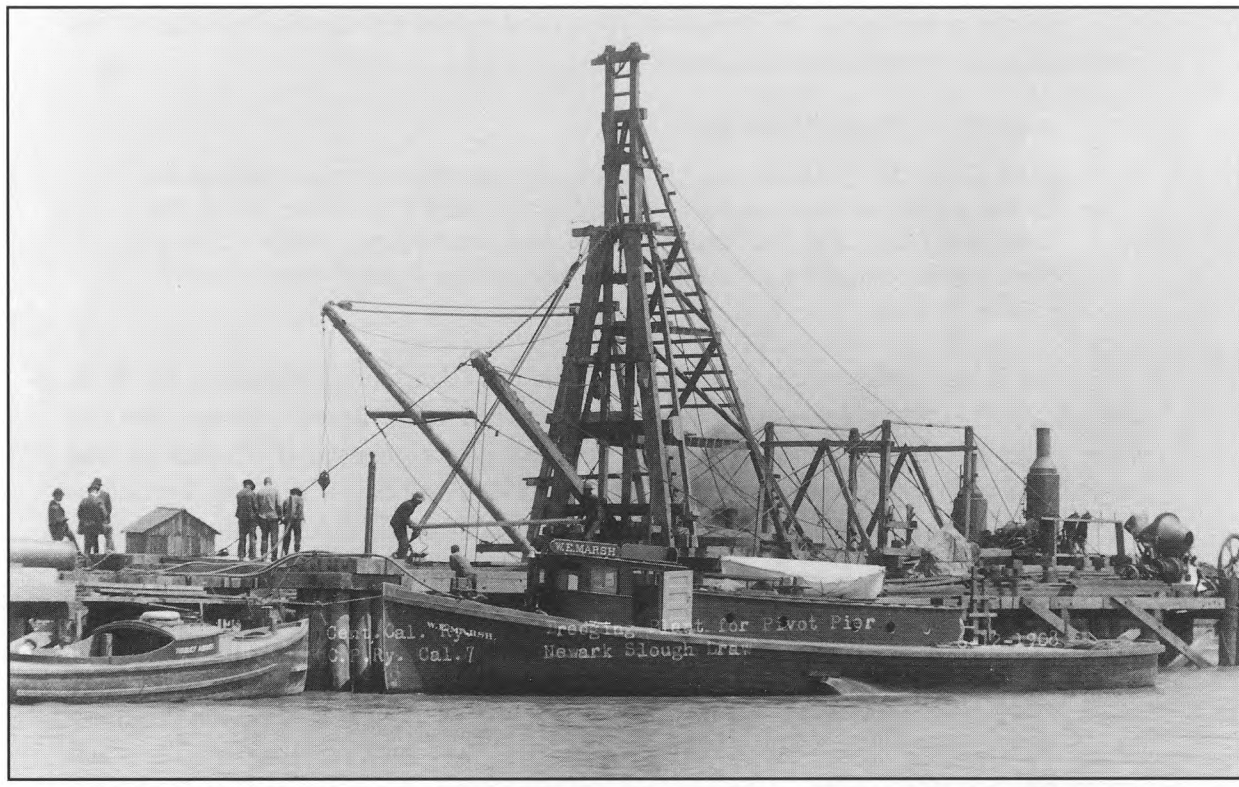
Two huge sailing ship hulls converted into barges serve as a means to transport the spans of the Dumbarton Draw Bridge. Near the center of the photo is the *Risdon No. 3.* To the left is the *Tiddley Addley*, which was built or named to replace the *Tiddley Addley* which was probably left on the Great Salt Lake.
Southern Pacific collection, courtesy of Lynn Farrar

Adjusting the span with a delicate pull, is the tug *Ajax,* nudging from behind in the lower left, the *Emma No. 5.*
Southern Pacific collection, courtesy of Lynn Farrar

On February 16, 1908, while Southern Pacific's Dumbarton Cutoff was nearing the mid-point in construction, a second *W. E. Marsh* was launched, this time from William Cryer's yard in Oakland. The vessel named after the "enviable construction Engineer" was a 60-foot tugboat that surprised even the builders with her speed. On the trial run, the day after launching, the dual 75-hp Atlas engines pushed her along at 14 miles per hour; one mile per hour for every thousand dollars of cost.

These photographs of the *W. E. Marsh* were taken by the Atlas Imperial Engine co. not far from their plant on the Oakland estuary, most likely during her trials.
San Francisco Maritime NHP, Photo B7.24, 932gl

Majestic sailing ships in the background lie moth-balled for the season, most of which were probably owned or used by the *Alaska Packers Association*, the largest canned salmon shipping company in history.
San Francisco Maritime NHP, Photo B7. 24, 934gl



The second *W. E. Marsh* four months after her launching, working on the Dumbarton Bridge project, completed in 1911. To the left, the second *Tiddley Addley.*
Southern Pacific collection, courtesy of Lynn Farrar

It would seem that there was no stopping Harriman, Hood and Marsh; Harriman would demand it, Hood would implement and oversee it, and Marsh would build it. It was as though there would someday be a vessel named after W. E. Marsh on every body of water in the western United States, with bridges and tunnels to match. But on September 2, 1909, even before the opening of the Dumbarton Bridge, W. E. Marsh was rushed from the Sierra Mountains where he was building a second main track, on the Rocklin-Colfax cut-off. He was hurried to San Francisco, where he was admitted to the Southern Pacific Hospital and two days later operated on for appendicitis. On the 20th he was operated on again, and on the 29th, exactly 20 days after Harriman's death, W. E. Marsh passed away.

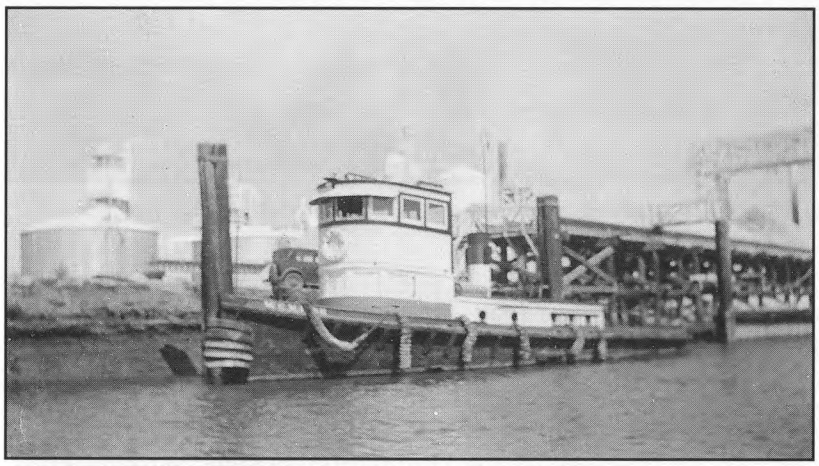
In the 34 years that Marsh was connected to the Southern Pacific Company, he had won the enviable reputation of being a noted construction engineer, and was regarded by his profession as a "wizard" in tunnel construction. William E. Marsh was 54 years old at the time of his death. The following writings were found on the back of yet another old photograph and pertain to the person as well as the engineer that Marsh was: "W. E. Marsh - 'the little man', who had entire control of the work. I have no recollection of ever meeting a finer man anywhere or at anytime in my life. Perhaps, if he had not died in 1909, I might have continued in So. Pac. service. Some time after resigning in 1910 I came to realize what I would better and ought to have done." The inscription was unsigned.

It was in the spring of 1910, that yet a third vessel was named in honor of the engineer, eight months after his death:

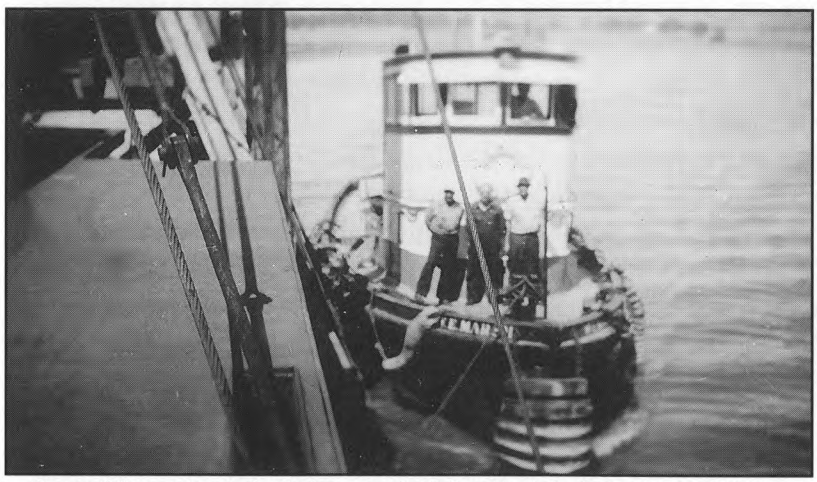
June, 1910 - *Pacific Motor Boat*

The Launch "W. E. Marsh No. 2," built by William Cryer in East Oakland for the Oregon Short Line, has been shipped to Salt Lake City for service on the Great Salt Lake. The boat which is 40 ft. long, and equipped with a 50 h.p. Atlas engine, was given a trial trip on the bay on May 2nd and made 11 and 3/4 miles an hour.

No further information, following this date has been found regarding the *W. E. Marsh No. 2*. Of the three boats built and named in W. E. Marsh's honor, one has truly stood the test of time. Not numbered, but simply named *W. E. Marsh,* she stayed in San Francisco after being launched in 1908, and began working for Southern Pacific on the Dumbarton drawbridge. The boat worked for Southern Pacific until 1934, when they sold it. The *W. E. Marsh* changed hands several times before Ludwig Hans Beck of Pioneer Shell co. purchased her in 1937 to add to his fleet. His business was dredging and hauling oyster shell from lower San Francisco bay, which he sold to various buyers for various uses. Petaluma and Alviso markets used the shell as a calcium supplement in chicken feed. In Redwood City, the Ideal Cement co., West Vaco Chlorine corp. of Newark, and a gold melting corporation in Selby, all purchased shell. Eventually, the old *W. E. Marsh* was stripped and lay on her side in the mud near Redwood City until she was demolished in the early 1980s. Sadly, all of the people contacted regarding the boat knew nothing of W. E. Marsh, the Southern Pacific engineer.



Note the pile of oyster shells in the background.
courtesy of Oscar Niemeth



Oscar Niemeth, at the helm, worked for Beck before owning his own towing CO, Oscar Niemeth Towing, Inc., still in operation as of 1998.
courtesy of Oscar Niemeth

The previous two photographs of *W. E. Marsh* were taken shortly after she was purchased by Hans Beck for his Pioneer Shell Company. The photos, taken at West Vaco Chlorine corporation, Newark, Ca, show the pilothouse alterations made by Oscar Niemeth.

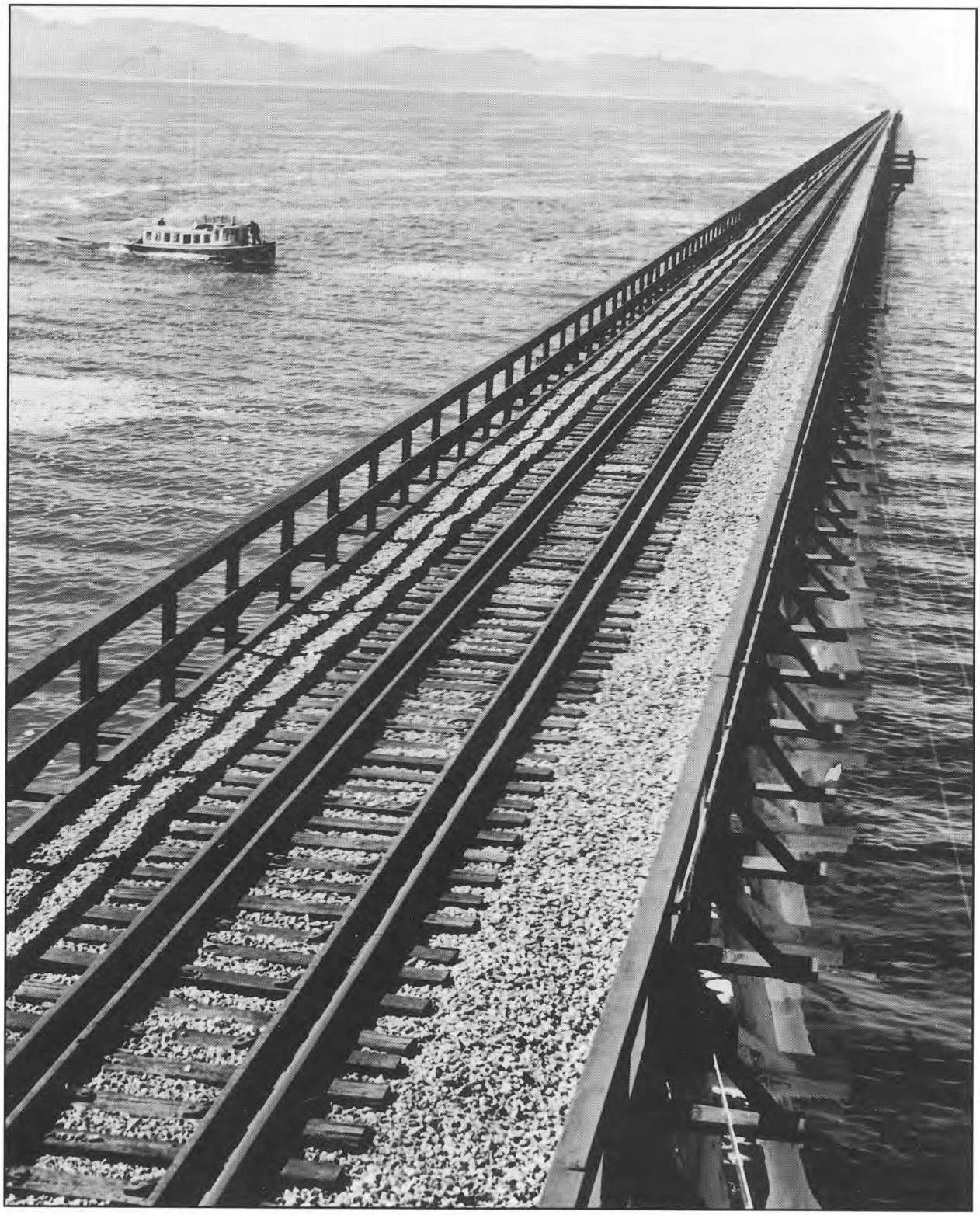
The *Lucin* returned to San Francisco in March of 1904, but the *W. E. Marsh No. 4* stayed on the lake to make repairs and do maintenance on the trestle. This job included the driving of helper and replacement piles. The *Emma*, though hauled with the remainder of the fleet to San Francisco, returned to the Great Salt Lake in 1910, where she was used alongside her sisters.

WHAT NEXT?

As for the steamer *Promontory*, she seems to have disappeared from history, leaving no clues of existence since the building of the Lucin Cutoff. Perhaps she was dismantled and used elsewhere by Southern Pacific, or lost on the lake in a sudden storm. The only mention by a newspaper regarding her fate was made by the *Salt Lake Tribune.* It stated that she would be tied up at Camp 10 indefinitely.

Between 1920 and 1927, the original trestle deck was replaced. In 1924, after it was pulled apart by a train making an emergency stop, the trestle received additional bracing to improve its longitudinal integrity. In 1929, the double track was extended west from Promontory to the beginning of the trestle. That change meant another telegraph station was needed. In 1930, the gasoline launch *Port Costa* returned to the Great Salt Lake. The need for another launch was most likely prompted by the building of the telegraph station (Bridge), which was built on the fill about a half-mile east of the trestle.

The *W. E. Marsh No. 4* and to her right the *Emma No. 5.* This photo was taken in June of 1927, probably during the replacement of the original trestle deck.
California State Railroad Museum, Collection: SPED b22 P.127 No.17223



The *Port Costa No. 6* sometime after her return to the Great Salt Lake in 1930. This view of the trestle was taken looking west toward Lakeside Mountains. Strongs Knob is just out of the photo, on the right.
Union Pacific Museum Collection

The trestle and *Port Costa No. 6*. Photo looks east toward Promontory Point.
Union Pacific Museum Collection

The *Port Costa No. 6*, doing what appears to be survey work. The unidentified vessel off her stern is undoubtedly from San Francisco, and definitely of Italian design.
Manuscripts Division, J. Willard Marriott Library, University of Utah

Among other boats hauled to the Great Salt Lake, after the Lucin Cutoff was finished, was the Italian designed *St. Joseph*. This photo was taken during a bridge inspection, probably in the 1930s, judging from the style of vessel and condition of the trestle.
Union Pacific Museum Collection,# X6998

Due to the war effort, it was requested in 1942 that the rails be taken up around the north end of the lake all the way to the station at Lucin. This made the Southern Pacific entirely dependent upon the Lucin Cutoff for its overland route at a time when railroads were operating at full capacity. The Ogden station was handling as many as 120 passenger trains each day on its seventeen tracks, and for one long period during the height of traffic there was a passenger train in and out of the depot every 5 minutes around-the-clock.

On New Years Eve 1944, seventeen miles west of Ogden and fourteen miles west of where the first fatalities occurred on Labor Day Sunday, 1902, the entire death toll for the Lucin Cutoff was more than eclipsed. At the Ogden station, the Pacific Limited had been broken down into two separate trains, and when they continued west they came upon a slow freight train near Bagely station. The engineers had to rely on track signals for communication. The fog was thick, and as the second section of train followed along the engineer probably did not see the leading train signal that it was slowing, and rear-ended the train. A sleeper car went up in the air and landed atop the engine that hit it.

The worst train wreck on the Lucin Cutoff to date. The cutoff seemed to be forming a habit of occurrences on major holidays: the first fatalities on Labor Day Sunday, Harriman's official opening on Thanksgiving Day and the Pacific Limited tragedy on New Years Eve, 1944.
Union Station Browning collection photo

The engine hit the back of the passenger train with such force that it caused another car to telescope further down the line. The most lethal train accidents occur when a car is forced through the end of the other in a telescoping manner.
Union Station Browning collection photo

Aerial view of Pacific Limited pile up
Union Station Browning collection photo

Louis E. Campbell, the fireman on the first engine recalls the scene vividly:

> January 1, 1995 - Standard Examiner, Ogden, Utah
>
> The air was filled with screams and pain. People were wandering dazed in the snow, half-naked, horrified, bleeding. Dead were everywhere in the gloom and cold....

The accident claimed over 50 lives, including the engineer of the second train, James McDonald. Seventy-nine were injured, most of them soldiers in transit.

Additional work was done on the trestle in 1943 and in 1946 to increase the number of piles per bent from five to seven. Also, 2,038 bracing piles were driven in the same direction as the trestle to support the 1,019 bents, which had started to lean. This further enhanced the trestles longitudinal stiffness.

Building a Bypass

After fifty years of use, the cost of maintaining the wooden trestle was rising steadily. Heavier traffic increased the sway action of the bridge, also due to the inherent weakness of a structure not braced in its lower 70 percent. To reduce the sway action and decrease wear and tear, train speeds were lowered to twenty miles per hour.

A detailed inspection made in 1953 showed that all of the structure above the pile caps was in need of rebuilding. This, together with the knowledge that the piles would need replacing within 30-years, was sufficient cause to urge the Southern Pacific into looking towards an alternative to the trestle itself.

A lot had changed in fifty years. America had made many advancements in both soil mechanics and earth moving equipment. The 30-hp gasoline engine, like that used by the *Lucin* at the turn of the century, had since been replaced by 300-hp high speed diesel engines of less size and weight. Power takeoffs and hydraulic hoses had replaced many of the dangerous shafts and chains. Electric motors had incredibly more power for their size, and with the advent of rapid communications it was possible to orchestrate an undertaking the size of which could not have been imagined fifty-years earlier.

The methods of trial and error, human power and persistence used by earlier engineers had given way to a more deliberate and scientific approach. These changes did not diminish in any way the accomplishment of fifty-years earlier, nor did it make the task at hand any less.

It was decided that an earth-fill causeway should be built parallel to the old trestle, fifteen hundred feet to the north; in this way, traffic would not be disturbed and the old trestle would be less apt to be damaged by the new construction. On May 26, 1955 Southern Pacific entered into contracts with International Engineering (Morrison Knudsen) for the construction of an earth-fill diversion around the trestle.

A soils laboratory was set up on site and samples were drilled from the bottom of the lake revealing the reasons for the difficulty in building the cutoff at the turn of the century. No sub-surface rock was found, only layers of salt formation and sediments such as clay and algae. Roughly one-third of these sediments consisted of rod-shaped fecal pellets from brine shrimp.

Not satisfied with the stability of this foundation, Southern Pacific decided that dredging first be done along the proposed path of the new embankment, and 16-million cubic yards of muck were removed from the floor of the lake, leaving an immense trench which varied in width and had a maximum depth of 25-feet. The finished embankment also varied in width, the bottom of which ranged from 175 to 600-feet and had a top width of 35-feet at twelve feet above the water surface.

Over 45-million cubic yards of material were used to construct the new diversion. In order to move such a volume of material work camps were set up at Promontory Point and Lakeside. Both camps were for all practical purposes small towns; called Little Valley and Lakeside. With a population of over 1,300, Little Valley had a supermarket, clothing store, restaurant, post office, and even a school. A deep-water channel and harbor were also built. This bay was called Little Valley Harbor, and was located on the western tip of Promontory Point, not far from town. From this harbor area most of the work was generated.

Six 1000-hp steel tugs were built in Portland, Oregon for the job. These tugs were cut in half down the middle and shipped to the job site, then welded back together and launched. Smaller 600-hp steel tugs were also used to supplement the larger vessels. The combined horsepower of all the launches used in the original construction of the Lucin Cutoff was less than the horsepower of one of these smallest tugs. The 1000-hp tugboats pushed six of the largest bottom-dump barges ever constructed. These massive steel barges, capable of carrying 1000-cubic yards, were dumped by remote control (either partially or entirely) from the helms of the tugboats once they were in position. Once the fill was within twelve to fifteen feet of the lake surface, deep-draft bottom-dump barges could no longer be used, and flat-decked barges pushed by the smaller tugs took over. The smaller steel barges were unloaded by tractors when positioned over the dumpsite.

In two separate blasts, 3.22-million pounds of explosives were detonated near the harbor area to produce the almost ten million tons of rock used on the project. A conveyer belt was set up on the Promontory to step up the movement of the material, moving more tons faster than any other in the world.

During the four years that the new diversion was under construction, a few mishaps occurred. On May 4, 1956, a train's overheated wheel housing caused a fire that burned 645-feet of the old trestle, halting traffic for six days. Prior to this accident, traffic had rolled over the trestle virtually uninterrupted for 52 years.

Used by permission, Utah State Historical Society, all rights reserved Photo no. 770

Two of the larger tugs and barges, coming and going from the harbor at Little Valley, on the west side of Promontory.

Used by permission, Utah State Historical Society, all rights reserved Photo no. 768

A variable army of workers and equipment worked from both ends while the barges and tugs raised the bottom of the lake between. In the background are the snow-flocked mountains of Promontory Peninsula.
Used by permission, Utah State Historical Society, all rights reserved Photo no. 769

Building the new diversion was not an easy task even with modern advancements in soil mechanics, drilling samples and dredging. Technology and preparation gave the engineers of the time an advantage and lessened the likelihood of unforeseeable accidents, but by no means did it prevent them.

In October 1957, a work crew on the Lucin Cutoff diversion project experienced a major failure of the grade. The following account of that failure is from Norman L. Sevy, foreman of the night shift crew that was working from the west side of the construction project when the accident occurred. Sevy was kind enough to contribute his own written recollection of the incident. He has titled his narrative:

The Night the Fill Failed

We were working out of Lakeside, a Southern Pacific Railroad section and rock quarry on the western shore of the Great Salt Lake. A cookhouse and living quarters had been set up for the construction crews who had been imported to handle the extra work generated when Southern Pacific had begun building their great causeway across the western arm of the lake.

A twenty-four hour work train had been established with a crew change every twelve hours. I was assigned as Rip-rap (work-train) foreman on the five P.M. to five A. M. shift. My job was to oversee the train and engine crews, correlate with Morrison-Knudsen, the construction firm hired to build the fill, and haul every pound of rock possible during my twelve-hour shift.

It was a fairly simple operation. We had two strings of nineteen side dumps each, a compressor flat and a caboose. We would shove the loads eastward with the cab on the east and boot it out onto the trestle and then shove the loads to the causeway, usually to the end of the track. Out near the end of track an earthen platform had been built on the south side. It was about fifty feet wide and a couple hundred feet long. On it was a light tower, a generator, a mechanic's house and a radio shack. There were also two D-8 cats which worked in tandem to shove the material we dumped to the end of the fill. The platform was a couple of feet above water and the causeway was about eight to ten feet above the platform.

One night just after midnight, we were met at the main line switch by one of the dozer operators. He was badly shaken up, wet, bruised and scratched. Between gagging up salt water he gasped out that it was all gone, everything, causeway, platforms, shacks, light tower and bulldozers. He said that just as we had left from our last dump the platform began sinking. He had run up onto the tracks but the causeway lifted up, turned on its side and slid under the water. He had tried to run along the track but the ties were falling from beneath his feet and in a matter of seconds found himself in the water. He said he had seen the light tower fall onto the other operator while he was trying to get his machine to high ground, and he felt the man had been killed. He had seen Shorty, the mechanic, on top of a fuel tank and he was floating around out in the lake.

I told the train crew to leave the caboose on and we would go out to see if we could find the other men and render any assistance we could. The conductor stated that neither he nor his brakemen were about to ride a caboose out there and he seriously doubted that the engineer would push the train out anyway. I told him to bring the engineer on up to where I could talk to him and we would let him decide for himself.

I spoke with the engineer, explaining about the men still out there and told him that I felt sure I knew where the failure began. A few days earlier, I had noticed severe knuckle action on the train through a specific area. I had requested the engineering department to check for unacceptable settlement there, but they had not yet been out.

The engineer said, "Mister, if you got guts enough to ride that caboose out there I sure as hell can push you. How fast do you want to go?" I replied, "We'll try about two miles a week, and if my lantern light suddenly disappears, don't plug 'em (put the train in emergency stop) I don't want the train sitting there sinking while we recover the air." We then proceeded onto the fill at a slow walk.

The caboose had kerosene markers and a kerosene lamp. The only light I had to spot the track ahead was my hand lantern. Not very much when a couple of search-lights would have been just dandy.

The fill leaves the old main track on a left hand curve then turns right and parallels the trestle a few hundred feet to the south. I was quite relieved when, just after I entered the right hand curve, I was joined by the conductor and

brakeman. This left me free to spot the track ahead and in a few moments I had them stop the train. I walked up to the next rail joint and found it pulled apart about three inches, the next about sixteen inches, next, three or four feet, then the rail disappeared into the water.

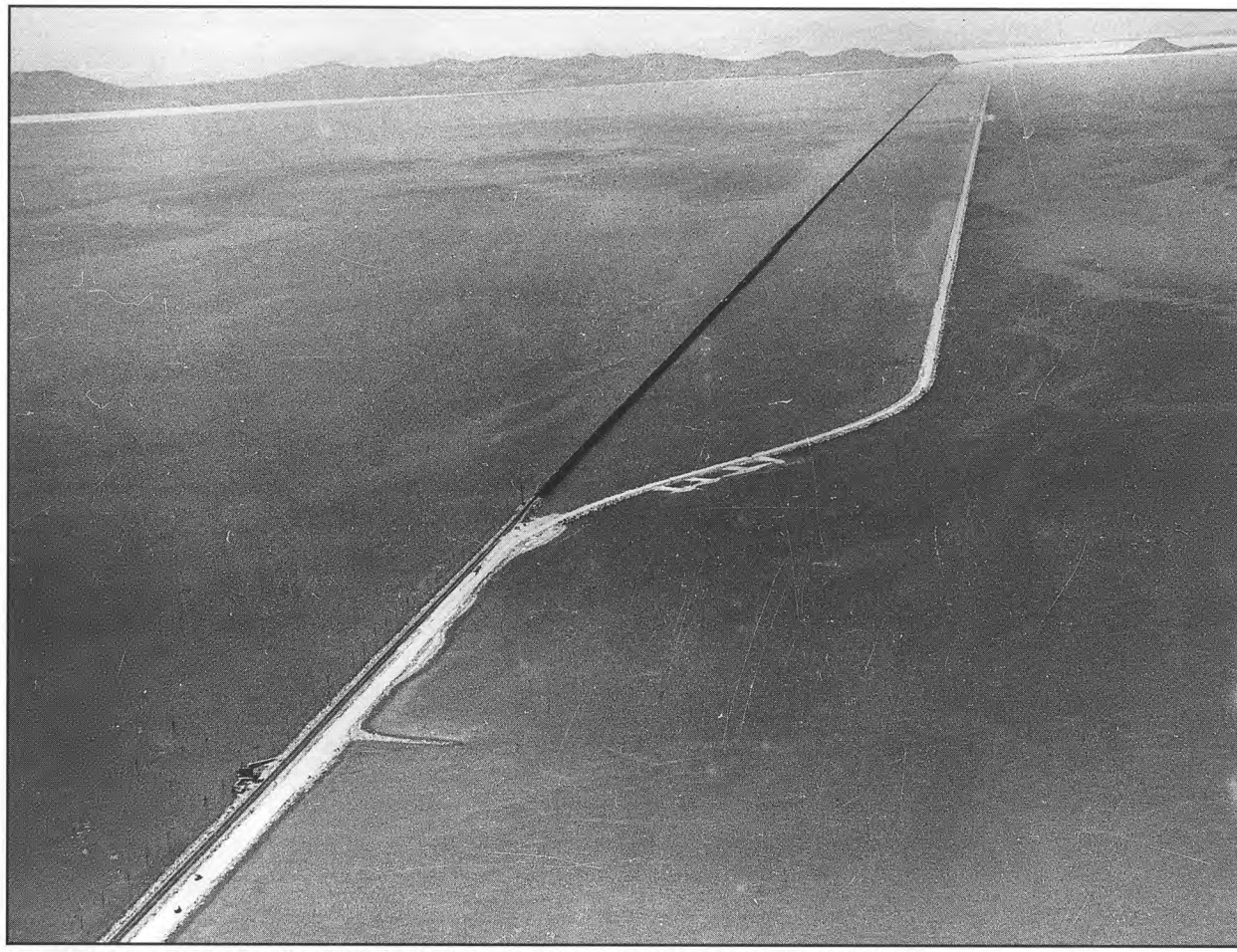
At this time I was relieved and happy when the other dozer man hailed me and came splashing out of the lake. He was not seriously injured, having jumped from his machine just before the light tower fell across it. Shorty began hollering from his perch on the fuel tank. He refused to leave the security he had, preferring to wait until daylight and the possibility of a boat.

When daylight did come, all that could be identified with the platform was about two inches of one of the dozer's exhaust pipe sticking out of the water.

Of the railroad, all that remained was a small island at the end of the track. Between there and the caboose over eight hundred feet of track lay beneath several feet of water.

The job shut down while the experts pondered the situation. When we started up the next spring, the dozer operators never returned. I think they preferred ground a trifle more predictable.

Photo looks west toward Lakeside. Surveyors make ready for the new tracks.
Used by permission, Utah State Historical Society, all rights reserved Photo no. 767



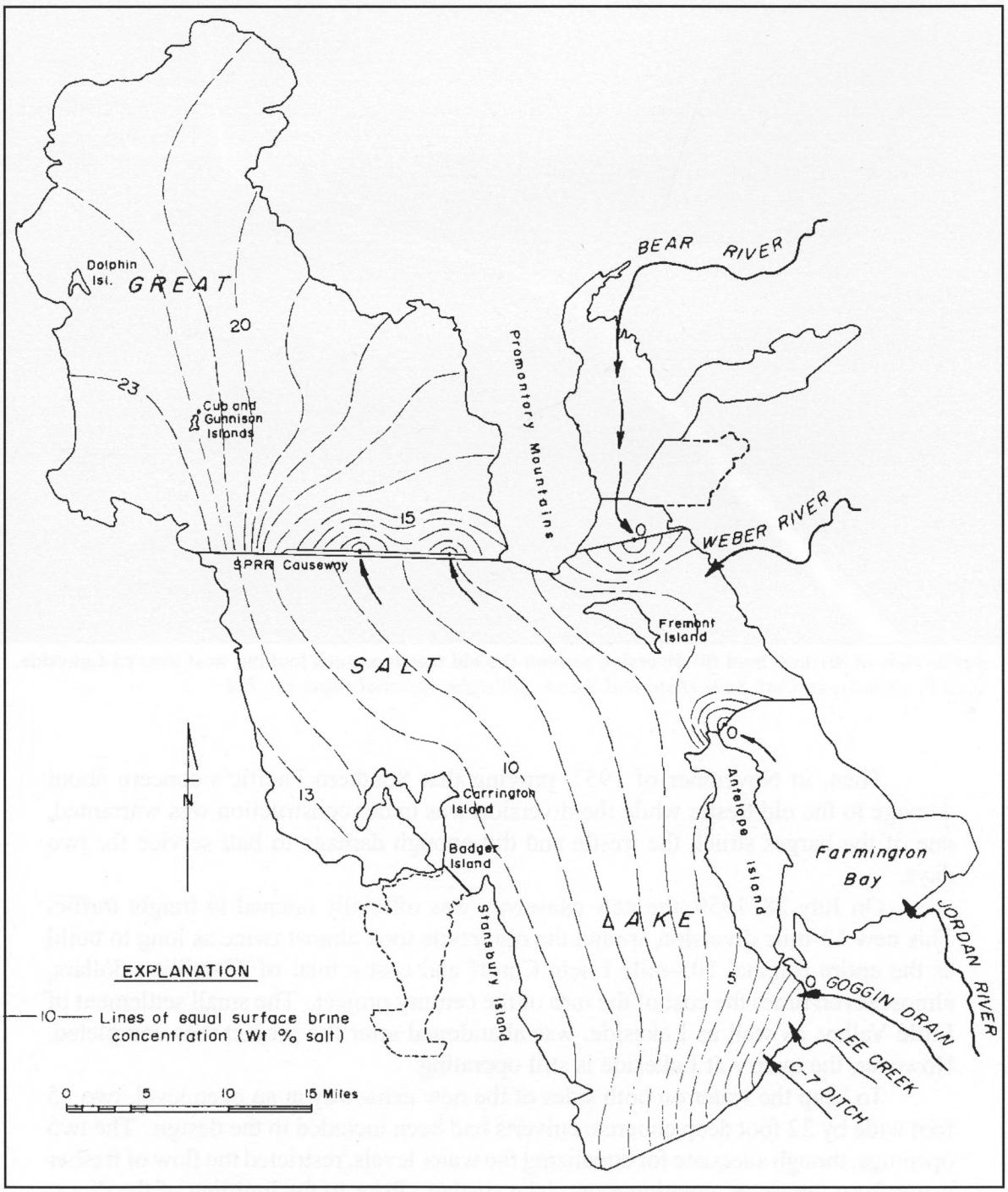
Aerial view of the new land fill diversion around the old trestle as seen looking west toward Lakeside.
Used by permission, Utah State Historical Society, all rights reserved Photo no. 774

Then, in November of 1957, proving that Southern Pacific's concern about damage to the old trestle while the diversion was under construction was warranted, one of the barges struck the trestle and did enough damage to halt service for two days.

On July 28, 1959, the new causeway was officially opened to freight traffic. This new 13-mile diversion around the old trestle took almost twice as long to build as the entire original 103-mile Lucin Cutoff and cost a total of 53-million dollars, almost seven times the cost of the turn of the century project. The small settlement of Little Valley, as well as Lakeside, was abandoned after the project was completed. However, the quarry at Lakeside is still operating.

To keep the water on both sides of the new causeway at an even level, two 15 foot wide by 22 foot deep concrete culverts had been included in the design. The two openings, though adequate for equalizing the water levels, restricted the flow of fresher water from the south, creating a two-lake system. Prior to the building of the diver-

sion the difference between salt concentrations in the north and south sections was much smaller. Since there are no substantial tributaries that empty fresh water into the north arm it has become a highly concentrated pink colored body of water, and the south arm a less concentrated blue-green body of water.



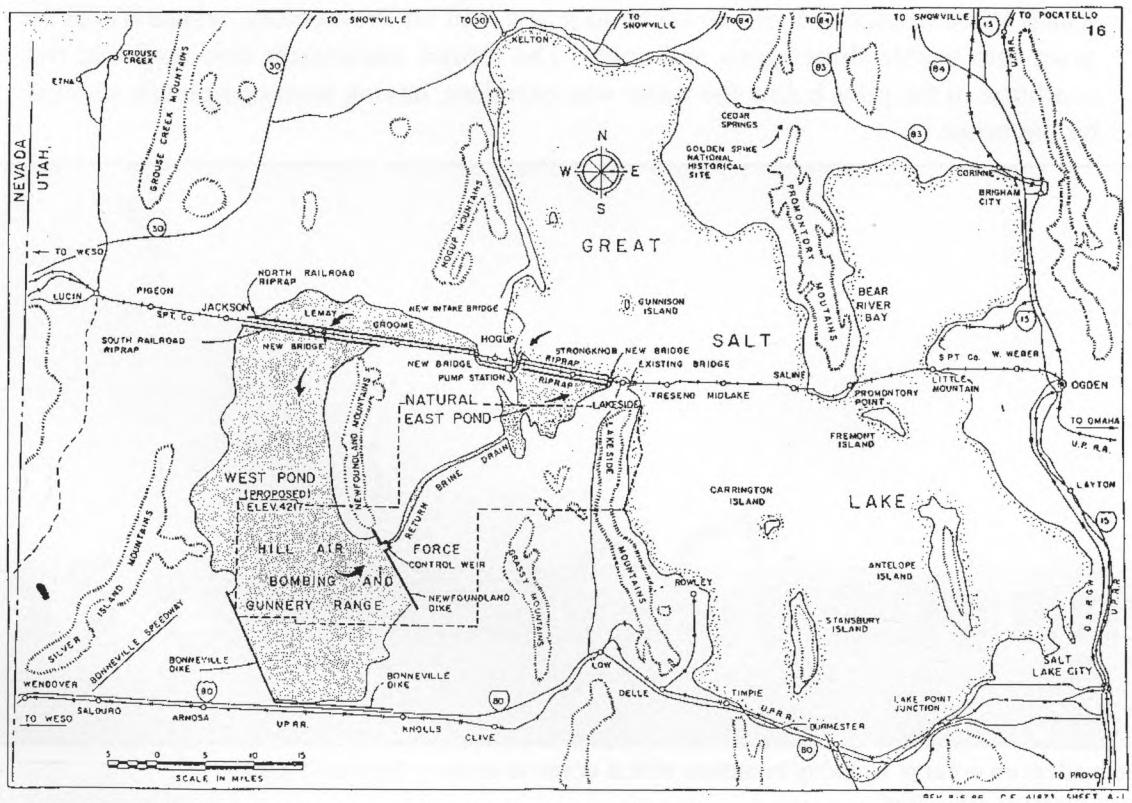
Typical distribution of surface brine concentrations on the lake
courtesy of Wallace J. Gwynn

1960s to Present

With the exception of a lightning fire in April 1962 that burned a 200-foot section of the trestle, the last three and a half decades have been relatively uneventful. Throughout the 60s and early 70s trains were sent across the trestle once a week, only to keep the upper structure flexible and rust from forming on the tracks in case of emergency use. The last train passed over the old wooden structure sometime in the mid 70s, marking the end to its usefulness.

In 1986 and 1987, record high water levels did extensive damage to the trestle deck, ending any hope for the trestle's future viability. This was a period of extreme high water; in fact, not since there were steamboats on the lake in the 1870s had this level of water been experienced. Damage was also done to the causeway. Timbers torn away from the old trestle battered at its side as heavy salt brine waves lifted the rock that formed its protective covering.

Southern Pacific was not the only one who received losses due to the high water levels. In all, 200 million dollars of damage was done, including damage to evaporation ponds, roadways, mineral extraction facilities, sewage treatment plants, and extensive damage to private property. As a result, a 60 million dollar pumping station was built on the western shore of the lake to pump water into an evaporation basin one-fifth the size of the lake. The pumps operated from April 1987 until June 1989, and the lake level fell more than six feet. The combination of the increased surface area, resulting increased evaporation, and arid weather did the trick. The pumps were mothballed for the possibility of future use.



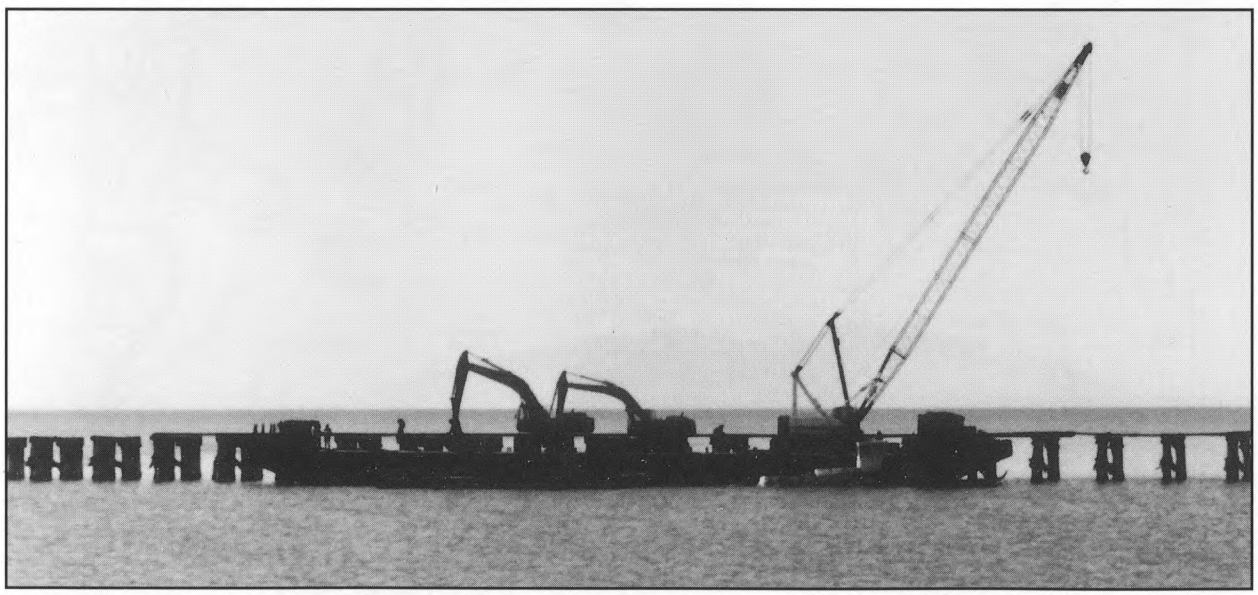
The Great Salt Lake and evaporation basin during the extreme high water levels of the 1980s.
Southern Pacific collection, courtesy of Lynn Farrar

Could the lake rise again, perhaps to a point above that of the 80s, is a question pondered by many, including experts. A second look at the hydrograph shown earlier reveals the sobering evidence. Historically, increases in the water level have been greater than the decrease shown in 1988 and 1989 — when the pumps were operating and the weather was arid. Indeed, the Great Salt Lake is still very capable of proving humankind is not in control.

On September 12, 1996, Union Pacific bought Southern Pacific and abandonment of the short cut across the lake all together was being considered at the time of this writing. By 1990 Southern Pacific had spent over 120 million dollars on maintaining the fill and currently Union Pacific is spending over 1 million each year maintaining the route. A new route over Promontory, either over the summit or along the western edge of the peninsula to about old Monument (where the 1869 route connected the two railroads) is a possibility.

Once the trestle was added to the National Historic Register and properly documented and photographed, the go ahead was given by the Utah State Historical Society for the trestle's removal. As of 1994 a company named Cannon Structures was at about the mid-point in the process of dismantling the old wooden trestle.

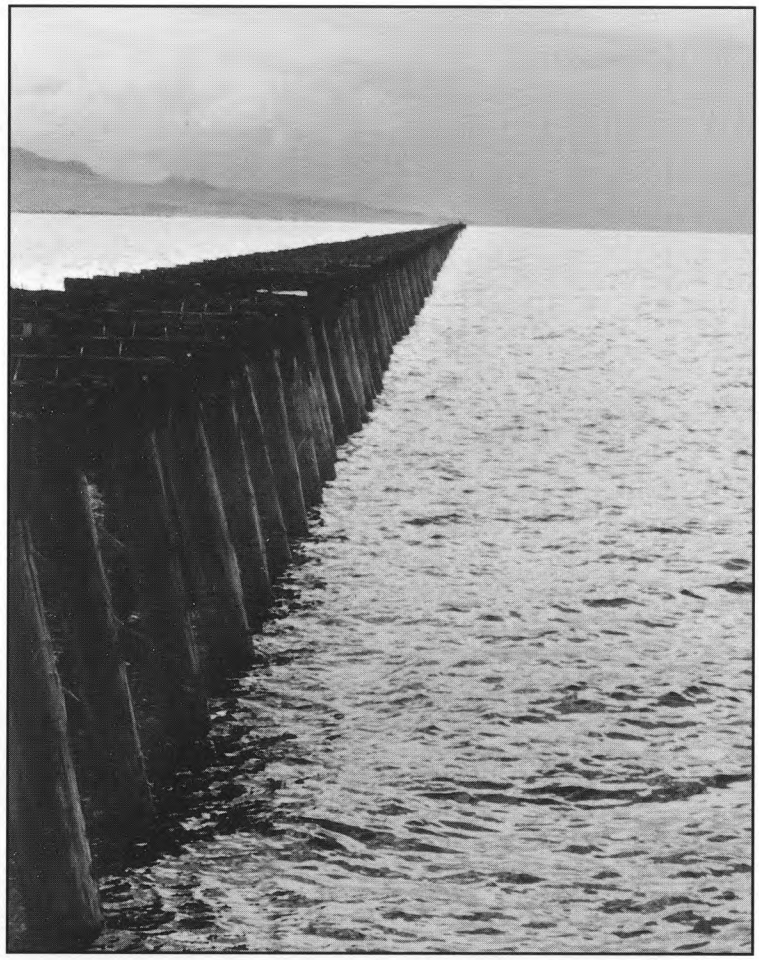
Several retired Southern Pacific employees, two of whom were hired as consultants for the trestle's removal, provided information on this last phase of trestle history. One of the consultants, Robert Burton, while employed with Southern Pacific, was road-master in charge of the Lucin Cutoff. Burton estimated that there was something in the neighborhood of 40 million board feet of lumber in the trestle, which when dismantled will be taken to a saw mill on Promontory, where it will be sawn into usable dimensions and sold. The retired roadmaster also said that the condition of the piles below the water was excellent, having been completely pickled by the brine.



Two loaders on a barge working in unison with a crane to remove the trestle deck.
David Peterson collection

(Right)
Loader removing a stringer.
David Peterson collection

(Below)
View of the 100 year old trestle being slowly picked away.
David Peterson collection



Looking east toward Promontory at the partially dismantled trestle.
David Peterson collection

All the retired Southern Pacific employees contacted voiced their respect for the engineers and builders who succeeded in accomplishing this incredible task. It doesn't seem to matter how much time passes, the Lucin Cutoff is still viewed by engineers today as the monumental achievement that it was almost 100 years ago. Thomas Edison wrote to Southern Pacific not long after its completion to say, "The Salt Lake cut-off is certainly a bold piece of engineering and well worth seeing." *Century Magazine*, Oscar King Davis, 1906

Robert Burton estimates that they will be finished with the dismantling of the trestle within three years. Both Burton and Norm Sevey (consultants for the dismantling project) expressed their satisfaction with how smoothly the process is going. As of 1997, there were ten miles of piling yet to pull. All the upper portion of the structure had been dismantled and two miles of piling were pulled. The wood (mostly Fir) is of high quality, being resold, and put to more good use. A local (Eureka, CA) carpenter purchased some for furniture and cabinet making. Ironically, my old fishing boat, the *Mary Bea*, just recently had a plank replaced, and the wood used was none other than that from the Lucin Cutoff. In all likelihood, by the time the Lucin Cutoff celebrates its centennial, the remains of the trestle will be completely gone.

INTERLUDE

Biographies of Early San Francisco Launches used by Southern Pacific on the Great Salt Lake

Augusta

Length 39' ~ Beam 7.4' ~ Depth 4' ~ Eng. 30-hp Gas

The photograph of an unidentified launch near the Lucin Cutoff trestle shows a good example of what was referred to as a half-cabin launch. Most of the launches brought to the Great Salt Lake by Southern Pacific were cabin launches, their houses running almost the entire length of the deck. Other launches common during that period were either covered or open. Covered meant with a canvas top and open, of course, meant no top or cabin.

Unidentified launch near the Lucin Cutoff Trestle.
Southern Pacific collection, courtesy of Lynn Farrar

As often happens when researching vessels, a photograph of a boat is found like the one before mentioned, that cannot be identified. Other times, a name is found and no photograph. Such is the case with the *Augusta*. The launch is mentioned in Dale Morgan's book, *The Great Salt Lake*. Morgan describes Alfred Lambourne's last return to his failed Gunnison Island homestead, aboard one of Southern Pacific's launches, the *Augusta*:

> The view from the island was changed, the long line of the Cutoff to the south seen in silhouette against the shining water, the Lilliputian locomotives trailing plumes of smoke and long trains of cars. The island itself was very lonely and desolate, no living soul there. The door stood open, the sifters' cabin empty. His vines were dead - not a stem or shoot of his hope had lived.
>
> Dry-eyed, he returned to the *Augusta*. As he stepped aboard, he saw near the boat's prow a drowning butterfly. Its extended, bright blue wings quivered convulsively as it drifted, helpless, on the brine.
> (*The Great Salt Lake,* Morgan 1975)

The *San Francisco Chronicle* published an article that confirmed the *Augusta* was an early San Francisco launch. It described her having a difficult time towing the pilot boat *Lady Mine* from Boole's ship-yard in Oakland to Sausalito, due to the parting of the tow-line and the breaking down of the engine. According to the article, dated September 12, 1901, it wasn't until 2 a.m. that the *Augusta* finally returned to her berth at Folsom street, having completed her job. The return of the *Augusta* to Folsom street is indication that she may have been one of San Francisco's Commercial launches, possibly owned by one of the well-known launch magnates that used Folsom street as a base during that period.

Earlier on, according to the *San Francisco Chronicle* dated November 23, 1897, Frank Moffat owned the *Augusta* and he had just returned from duck hunting on Tubbs Island. Actually, the *Augusta* belonged to Frank Moffitt, not Moffat, according to the article that appeared in the *San Francisco Examiner*, just 11 months prior. Also at that time, for the most part, gas launches were still called steam launches and even recognized as such in the merchant vessels books.

> December 21, 1896 - *San Francisco Examiner*
>
> Frank J. Moffitt has placed an order with George W. Kneass, the boat builder, for a steam launch to cost $3,250. The boat will be thirty-eight feet long, with a twenty-horsepower engine. She will have a cabin fore and aft, and will be completely furnished. The boat will be one of the handsomest on the bay.

According to the 1892 Husted Directory, Frank J. Moffitt was a resident of Oakland, and president of the Morning Times Co. Frank Moffitt's ownership of the *Augusta* is also confirmed in the personal notes of William Cryer, an early San Francisco launch builder.

The possibility that the *Augusta* was misidentified in Dale Morgan's book is also a consideration. The following article that appeared in *Pacific Motor Boat* magazine, suggests that the *Augusta* not only returned to San Francisco after Lambourne's visit to his homestead in 1908, but also was owned by Western Pacific Railroad. Like Southern Pacific, Western Pacific also had good cause for launches on the lake, having built its new line around the south end between 1906 and 1908.

Western Pacific finally gave Salt Lake City its direct route to the coast when it built around the south end of the lake not long after the Lucin Cutoff was completed. Workers stand atop the temporary trestle that cuts across a section of the lake.

March, 1910 - *Pacific Motor Boat*

The launch *Augusta*, belonging to Western Pacific Railroad, was sunk at the foot of Fremont street in a storm about the first of the month, but was raised.

Western Pacific finally gave Salt Lake City its direct route to the coast when it built around the south end of the lake not long after the Lucin Cutoff was completed. Workers stand atop the temporary trestle that cuts across a section of the lake.

Western Pacific's ownership of the *Augusta,* after her trip to the Great Salt Lake, is confirmed in Cryer's notes also:

Aug. 18th 07 Western Pacific Ry - Repairs to launch *Augusta:* 113.20

C. A. McNeill

Length 38.8' ~ Beam 9.8' ~ Depth 4.7' ~ Eng. 50-hp Gas

Built in 1900 by P. Swanson of Belvedere for a small launch company owned by Charles A. McNeill of Tiburon. Mr. McNeill used this launch as well as a couple of others in his launch business at the foot of Clay Street on San Francisco's waterfront:

November 7, 1903 - *San Francisco Chronicle*

> The *C. A. McNeill*, always one of the fastest gasoline boats in the bay, has had a new engine of fifty horse-power installed, an increase of ten horse-power over the old one, and Captain McNeill declares that he is now ready to race anything in the launch class in the bay.

February 17, 1903 - *San Francisco Chronicle*

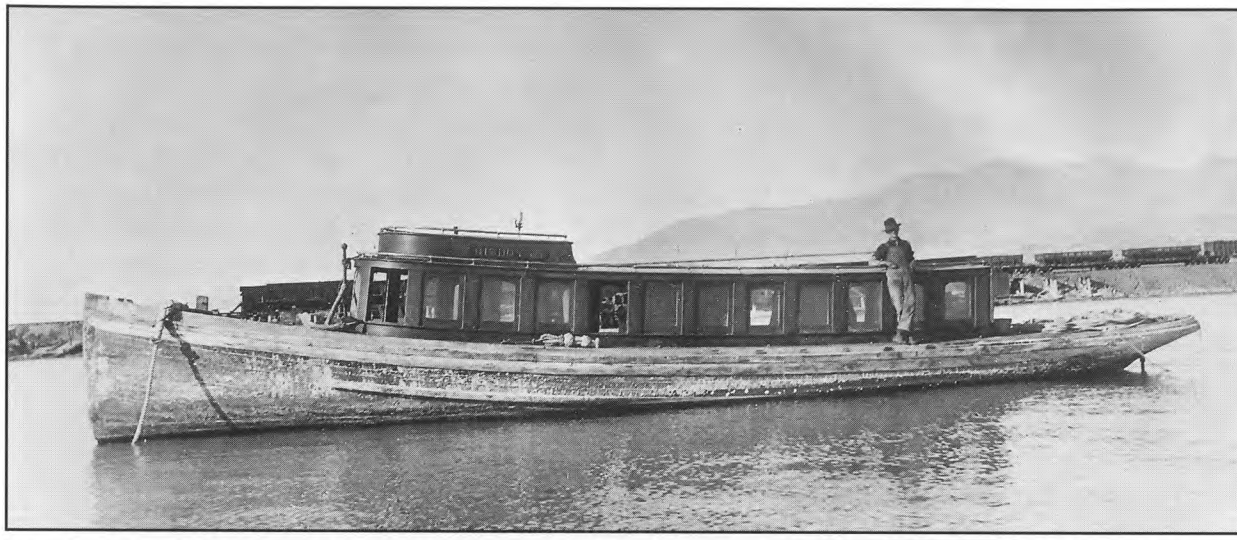
> The well-known gasoline launch *C. A. McNeill*, named after her owner, has been sold to Southern Pacific Company, to be used on Salt Lake, where the company has need of the vessel in towing barges and piles. McNeill at first refused to part with his boat, but when offered $4000. or as much as it had cost him to build two or three years ago. He has already planned to build a larger and faster launch for use in his bay business.

While working on the Lucin Cutoff project, the *C. A. McNeill* was given the honor of towing the last pile to the trestle, making the new line continuous. After the completion of the Lucin Cutoff, the *McNeill* was shipped back to San Francisco where Southern Pacific used her until 1915, at which time she was sold to William D. Nutz. In 1922, Mr. Nutz sold the *C. A. McNeill* to C. E. Foy and Ed M. Foy, each owning 50 percent. The *C. A. McNeill* ended her days as a tugboat in the Stockton area, where she was dismantled in February of 1925 while under the sole ownership of Ed Foy.

Risdon No. 3

Length 48.1' ~ Beam 9.6' ~ Depth 4.4' ~ Eng.75-hp Gas

According to the *San Francisco Chronicle*, Beadle of Oakland built the *Risdon* in 1901, for the Risdon Iron and Locomotive Works. Besides general use in the bay, the *Risdon* was built to ply between their plant in San Francisco and the float at the foot of Folsom Street, a distance of two miles. With a long sleek hull and a gasoline engine of 75-hp, the *Risdon* was a true beast of her time and like the *C. A. McNeill*, quite fast I'm sure.



Anchored near the Lucin Cutoff, the *Risdon No. 3* was one of the largest launches sent to the Great Salt Lake by Southern Pacific.
California State Railroad Museum

The *Risdon No. 3* some time later, after her return to San Francisco Bay.
Southern Pacific collection, courtesy of Lynn Farrar

Southern Pacific wanted the best and the fastest launches that San Francisco could offer for building the Lucin Cutoff. From evidence found in bills of sale, Southern Pacific paid top dollar for its fleet of gas launches.

The *Risdon No. 3* was sold to Southern Pacific on April 13, 1903, and shipped to the Great Salt Lake. According to the *Risdon's* master carpenter certificate dated May 1908, J. C. Beadle of Alameda and not Oakland, as stated by the San Francisco Chronicle, built her. In all likelihood, J. C. Beetle of Alameda and not Beadle of Oakland or Alameda built the *Risdon*. J. C. Beetle's name appears on several other master carpenter certificates for the construction of gas launches during this same period.

Under the command of Engineer Story, the *Risdon* pulled the burning *Galloping Tiger No. 2* away from the steamer *Promontory* on October 18, 1903. After her return from the Great Salt Lake, Southern Pacific operated the *Risdon* on San Francisco Bay for over 30 years. During that period she was skippered by numerous masters among who were, J. C. Susan, George Dickson, John O. Mills, and George N. Price.

In 1925 the *Risdon* was re-powered with a 90-hp gas engine, and in 1935 she was sold out of Southern Pacific's fleet to D. J. Arques of Sausalito, who continued to use her on San Francisco Bay.

In 1946 Mr. Arques sold the *Risdon* to Ray E. Null of Paradise Point, Stockton, California, who changed her trade from towing to coasting trade and the mackerel fishery. Many gas launches built around the turn of the century, including the *Lucin*, became fishing boats in the 30s and 40s.

The end of the *Risdon No. 3* came while under the ownership of Ray E. Null. Her license was surrendered in March at San Francisco, having been lost by fire at Bethel Island, on January 1, 1954.

Emma No. 5

Length 42' ~ Beam 11' ~ Depth 4.25' ~ Eng. 40-hp

Built in 1902 by Boole and Son of Oakland for Southern Pacific, along with at least one other launch (name unknown) for the purpose of building the Lucin Cutoff. It is thought that Henry Theimann skippered the *Emma*. In fact, his son found a photograph showing Theimann aboard the *Emma*. Following the completion of the cutoff, the *Emma* was shipped by rail back to San Francisco from the Great Salt Lake in April of 1904, and put to work in the upper bay by Southern Pacific.

Between 1906 and 1910, along with other launches brought back from Utah, the *Emma* worked on Southern Pacific's Dumbarton Draw Bridge on the lower end of San Francisco Bay. The Dumbarton Draw Bridge was opened for traffic on September 12, 1910 and on November 9, 1910 the *Emma's* license was surrendered to the Bureau of Navigation in San Francisco. Again placed aboard a flat-car and shipped to the Great Salt Lake, the *Emma* resumed what would be the remainder of her long career doing maintenance and inspection on the Lucin Cutoff.

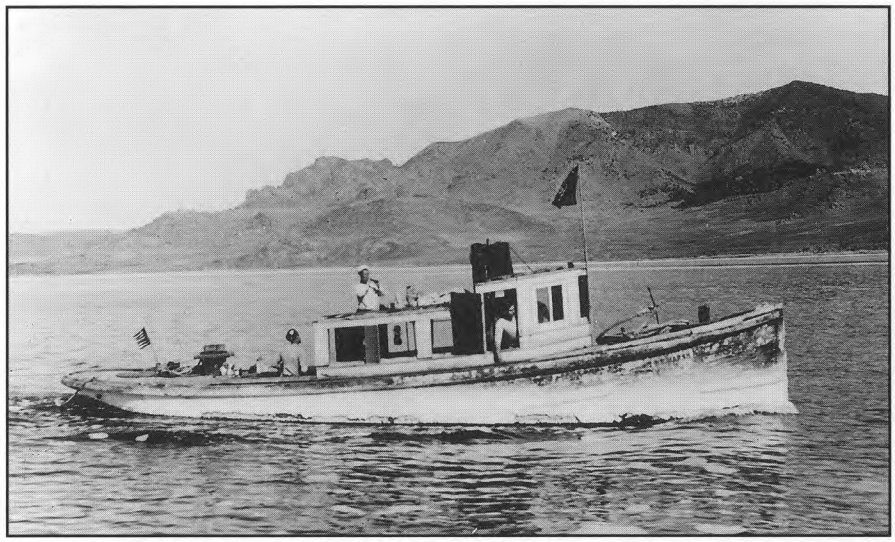
The *Emma*, as she appeared on the peaceful waters of The Great Salt Lake. Behind her the unfinished trestle.
courtesy of Henry Thiemann

It wasn't until the early 1960s that the *Emma* was deemed unsafe and no longer practical to operate. She was taken out to Midlake, on the north side of the cutoff, a charge of dynamite was placed aboard, and she was blown up, ending her most impressive tenure with Southern Pacific not far from the trestle she helped to construct 60 years earlier.

W. E. Marsh No. 4

Little is known about the *W. E. Marsh No. 4*, except what can be put together from a few photographs and a note left with Southern Pacific's engineering department. The intended function of the *W. E. Marsh No. 4* was to maintain the line during and after the completion of the Lucin Cutoff, as described in the caption under one photograph: Maintenance of way camp and launch. The *W. E. Marsh No. 4* was the first of three launches named for the Southern Pacific construction engineer out of respect for a job well done.

The *W. E. Marsh No. 4* sets on the placid waters of the Great Salt Lake. In the background, Southern Pacific's Maintenance of Way camp and the seemingly endless trestle.
California State Railroad Museum



The *W. E. Marsh No. 4* more than thirty years later.
Manuscripts Division, J. Willard Marriott Library, University of Utah

It is not known how long the original *W. E. Marsh No. 4* survived her hostile environment on the Great Salt Lake, but judging her condition from photographs taken of her in 1936 while dragging the lake for a crashed D. C. 3, she couldn't have survived much longer. Also, no other information could be found regarding the fate of the *W. E. Marsh No. 2*, which was sent to the lake in 1910.

As part of an intensive four month long operation, the *W. E. Marsh No. 4* drags the lake for a Standard Oil Co. plane that crashed into the lake October 6, 1935, killing all three aboard.
Manuscripts Division, J. Willard Marriott Library, University of Utah

Port Costa No. 6

Length 43.3' ~ Beam 10' ~ Depth 5.4' ~ Eng. 50-hp Gas

George W. Kneass built the *Port Costa* in San Francisco in 1898 for the wealthy and well-known grain merchant G. W. McNear. Not long after the completion of Central Pacific's connection through Martinez in 1879, Mr. McNear seized the opportunity and built a deep water loading dock and warehouse for grain, ultimately establishing the town of Port Costa near Vallejo.

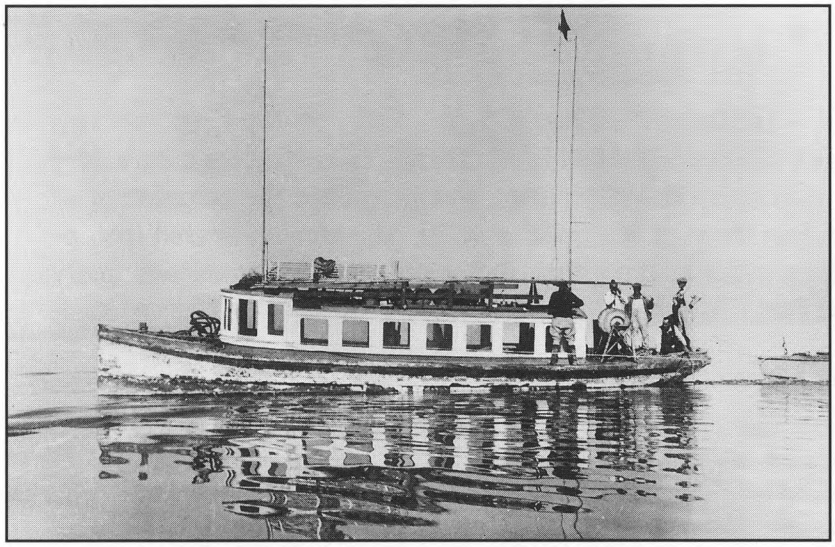
May 8, 1898 - *San Francisco Chronicle*

> George W. McNear's new launch *Port Costa* is now finished, and yesterday afternoon McNear, with his wife and family, went for a spin around the bay. *Port Costa* is the most handsomely finished launch in the bay, and is fitted up exclusively for comfort. She makes twelve knots without any difficulty. Captain and crew are dressed in neat uniforms. The *Port Costa* will be used as a pleasure boat for the use of McNear and his friends, and will also be utilized as a dispatch-boat between this city and the flour mills at Port Costa.

It is not known precisely when Southern Pacific purchased the *Port Costa* from McNear. It was most likely about the same time the other launches were acquired - early 1903. What bills of sale there were, were gained by Southern Pacific after the fact, and with these items the *Port Costa, Risdon, C. A. McNeill*, and *Emma* were documented all at the same time in 1908, appearing on the docket of official numbers one below the other.

No early pictures of the *Port Costa* were found in Southern Pacific's engineering files for the building of the Lucin Cutoff. Perhaps she was too nice a launch for the construction part of the project, and was used to convey engineers and high officials around the lake. Nevertheless, the *Port Costa* was in San Francisco in early 1905 under the ownership of Southern Pacific because that is where she played her small role in the battle between Edward H. Harriman and Jay Gould of the Western Pacific, for right of way and land on San Francisco's waterfront.

Photo of the *Port Costa No. 6* on San Francisco Bay, found with other photos in Southern Pacific's engineering department.
Southern Pacific collection, courtesy of Lynn Farrar



***Port Costa No. 6* 30 years later on the Great Salt Lake**
Manuscripts Division, J. Willard Marriott Library, University of Utah

January 11, 1905 - *San Francisco Chronicle*

.. A FEDERAL injunction has stopped the work of the Western Pacific on its proposed bay terminal.

Judge William W. Morrow of the Circuit Court yesterday granted a temporary injunction against all work on the strip of land under Federal control which the Western Pacific has seized and to which the Southern Pacific claims prior rights. The order is made returnable January 15th. It was served on the foreman of the tracklaying crew and on the men on the dredger at 4:30 o'clock yesterday afternoon by Deputy United States Marshal George H. Burnham...

...At 4 o'clock yesterday afternoon the Deputy Marshal crossed the bay in the Southern Pacific's launch *Port Costa*. He went to the big dredger of the American Dredging Company. E. S. Johnson was in charge at the time, and on him the officer served the papers. After reading the order, Johnson had the big pump shut down...

The photograph of the *Port Costa* (in almost new condition) was with other photographs in Southern Pacific's engineering department, most likely from the building of the Dumbarton Draw Bridge.

The *Port Costa's* last license in San Francisco was dated April 23, 1930. In a report issued to the department of commerce dated June 30, 1932, the vessel had been shipped to Lakeside, Utah, to ply the inland waters, and her official number, no longer necessary, was surrendered.

Found among other bits and pieces in the Thomas Adam's papers (a notable author about the Great Salt Lake) the second photograph provides proof of the *Port Costa's* residence on the lake sometime in the 1930's. Though no more information could be found, judging from her rugged condition in the photograph, it is safe to assume that the *Port Costa*, the once notable "palatial launch," ended her days on the Great Salt Lake.

3

LUCIN
THE SURVIVOR

The *Lucin* returned to the Bay Area in March 1904. Two short years later on April 18, 1906, San Francisco was hit by an earthquake and ensuing fire, the likes of which will hopefully never be seen again. In Utah, the *Ogden Standard* ran front-page headlines describing the disaster and mayhem for a full week. Harriman immediately offered San Francisco the vast resources of the Southern Pacific to help put the crippled city back on its feet. Southern Pacific's trans-bay ferries and river steamers maintained a rigorous and nearly flawless twenty-minute schedule, carrying passengers from San Francisco to Oakland. Peterson and Crowley launches were doing record business, as were other companies on both sides of the bay. Virtually all vessels on the waterfront were pressed into service hauling the desperate crowds across the bay to safety. The *Lucin*, in all likelihood, was just one more passenger launch masked by the smoke and the roar of the fire, unnoticed by even those who may have boarded her to make their escape.

RETURN TO SAN FRANCISCO

In the 35 days following the devastating quake, Southern Pacific handled 16,000 carloads of relief supplies and 224,069 passengers, all without charge. In addition, many Southern Pacific buildings were utilized as housing for a portion of the 200,000 left homeless. Southern Pacific work gangs laid temporary tracks on the city streets for the trains that removed the debris and brought in building materials so that San Francisco could begin anew.

Prior to the *Lucin* being rebuilt in 1908, and after her return from the Great Salt Lake, she was most likely used on the piling stage of the Dumbarton Draw Bridge. Available photographs of the project do not show the *Lucin* but they do show a couple of her sisters, the *Emma No. 5* and the *Risdon No. 3*.

MORE WORK FOR THE LAUNCHES

From 1900 to 1920, gas launches gained great popularity on the bay and more boatyards began to produce them. The top launch builders were H. P. "Pop" *Anderson*, William Cryer, John F. Twigg, W. A. Boole, George W. Kneass, W. F. Stone, Nunes Brothers and Stephens Brothers. Between them, they would contribute to the growing number of gasoline launches, not only on San Francisco bay but other parts of the world as well. Many launches shipped out aboard flat cars or steamers as deck

loads found work elsewhere, so were not recorded. By 1925, there were roughly one thousand of these working gas boats in San Francisco Bay and its tributaries.

There are several of William Cryer's older vessels still around; two of which are the *Sallie C*, built in 1907 for the Cousins Launch & Lighter Co. of Eureka (now the *Catalina* San Francisco) and the 64 foot *Raven* built in 1916, for the *Alaska Packers Association* to tow barge-type fish camps in Alaska. William Cryer's yard stayed in business until the mid 1980's.

Several years prior to Anderson's death on July 6, 1927, his yard was taken over by his son Walter who formed a partnership with Alfred Cristofani. I remember the first time I saw an Anderson and Cristofani brass plaque, in the pilothouse of the *Terron*, built in 1927. I wondered how the two got along in one shipyard, an Italian and a Dane, with such vastly different building methods, and having just come from their old countries. The answer is that Pop Anderson and Alfred Cristofani probably never did work together, and of course, the name on the plaque represents Walter Anderson. The *Terron* is in Eureka, still making a living. During a recent refastening of the *Terron*, I corked the garboard planks. Prior to this, the vessel had effectively held out water since 1927, with only a wood-to-wood fit, a planking method Italians are known for.

Refitting the *Lucin*

In 1908, the *Lucin* was rebuilt by Southern Pacific. Her sleek passenger cabin was torn off and a small pilothouse built, one that could easily be accessed from deck-level on either side. A trunk cabin was also built over her cumbersome gas engine, and the *Lucin* emerged from the yard with a more conventional tugboat configuration.

For the next decade, the *Lucin* continued to work for the Southern Pacific in San Francisco Bay, doing the many small chores that a steadily growing company would have for her. Perhaps she was hauling small amounts of freight or workers and equipment on her now more spacious deck, or she may have been pushing or towing larger vessels that were unable to maneuver within the confines of the bay.

It may well be that it was the completion of the Coos Bay branch extension (a large construction project in Oregon) that led to the selling of the *Lucin* to F. B. Block of Portland, Oregon in 1917. Whatever the cause of her sale, her past is forever an integral part of railroad history.

Working Freight

F. B. Block entered the *Lucin* into the freight hauling business on the Columbia River, and was the first to apply for official documentation of the craft. The lack of earlier documentation has made it very difficult to research her past. The original name given her in 1893 is still a mystery and will likely remain one.

By 1917, competition for freight hauling on the Columbia was keen. Many steamers had come and gone in the last 80 or so years, since the first paddle wheels splashed the surface of the mighty Columbia, but now there was more to contend with than price wars with other vessels. The railroad had come fully of age taking a great deal of commerce away from the vessels. In

addition, the infrastructure had greatly developed and much of the freight was reaching its destination by truck. Ironically, the very bridges that the gas launches helped to build would contribute to their eventual decline. Passengers would drive where they once hopped a launch for a ride down the river or across the bay, freight would be trucked or put aboard a train at a lower cost and quicker service to the owner.

During this period gas launches filled a need that otherwise might not have been met by other modes; they hauled small amounts of passengers and freight up and down the river to places that might not be scheduled by the large-scale movers. It was also during this period that many gas launches with larger engines like the *Lucin*, may have taken on more of a tug boat role, ignoring the passenger trade altogether, to tow freight barges.

Little is known regarding Mr. Block's business, except that he had a small fleet of freight boats and listed his address at the Portland Rowing Club. After ten years on the Columbia, Block sold the *Lucin* to James L. Wilson of Aberdeen, Washington, for $2,300. It was Wilson who (though he owned her for only two months) changed her service from freight to towing and introduced the *Lucin* to what would be a decade of use as a full-fledged tugboat at Grays Harbor with a 40-hp Standard gas engine under her decks.

Pioneer Tug Boat Company bought the *Lucin*, and immediately installed a 50-hp Atlas Imperial diesel engine. A lot had happened in the world of diesel engine development in the last eleven years since Atlas announced building its first 100-hp model back in 1915. Atlas, the leader in early diesel engine development on the Pacific coast, was accepted into the world of the workboat after the turn of the century by proving its gas engines dependable, powerful, and economical, and would do the same with its diesels.

Gas prices had climbed steadily, along with the increase in vehicles and boats. In February 1913, *Pacific Motor Boat* magazine estimated that there were five thousand gas engines on the bay area waterways alone. From the turn of the century until that time gas prices had more than doubled and were over twenty cents a gallon in some areas. Also, gas engine builders were looking for a way to develop more business, the war in Europe having hurt their exportation markets. By 1918, and the end of the war, the Atlas plant in San Francisco was swamped with orders for their new diesels.

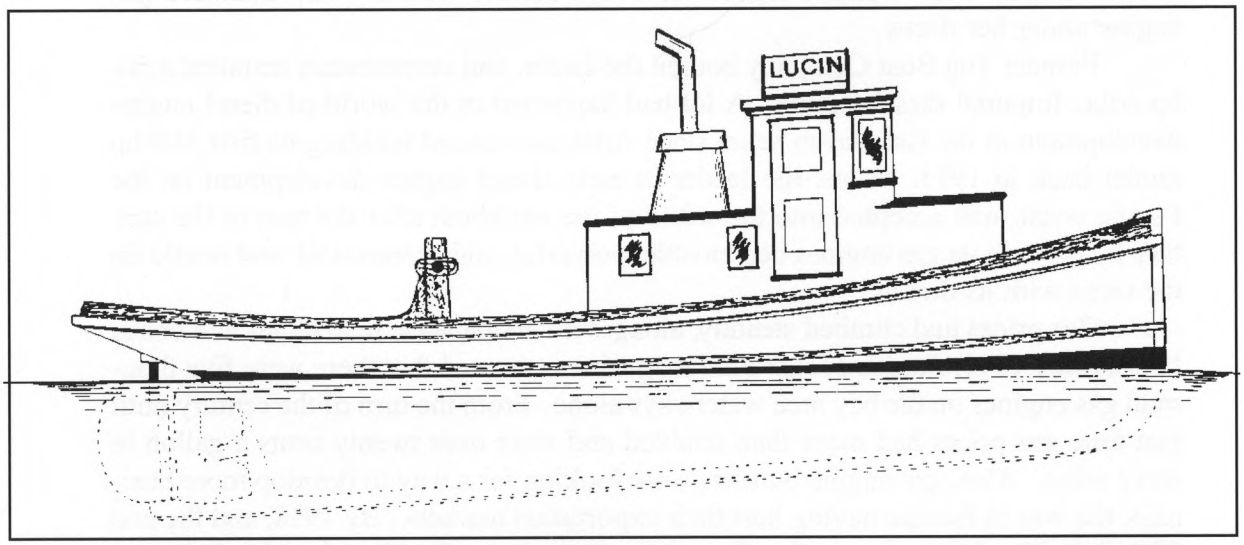
Although gas prices had dropped to around 16 cents per gallon by 1926, it was still considered good business to scrap even a newer gas engine to install a diesel. The diesels of that time were becoming much more efficient than the gas engines, burning only half the amount of fuel at only four cents per gallon:

> October 1926 - *Pacific Motor Boat*
>
> Conversion of the gasoline powered tug "*Lucine*", a familiar figure in the Portland harbor for many years, to diesel power was made known recently. The *"Lucine"* will have a 50-hp standard Atlas - Imperial Diesel which will be installed during the early fall. She is now owned by Pioneer Towboat company

of Aberdeen and was built in 1893 at San Francisco. She is 43.5 feet long, 10.5 feet beam and four feet in depth.

The misspelling of her name in this article is just another sign that very few people knew of the Lucin Cutoff, the role played by the launches there, or the reason behind the name given the vessel. Even the local Eureka fishermen had always pronounced her name as the "Luceen".

From the time of the installation in 1926, to the time the engine was paid off in 1929, Atlas held the title on the *Lucin*, a common practice for Atlas, since the new engine was often worth as much or more then the vessel itself. Although the *Lucin* was legally owned by Pioneer during this period, she was turned over to Hubble, another tug outfit at Grays Harbor, and on any foggy morning between 1926 and 1937 you might have seen her tailing a raft of logs out of Preacher's Slough, headed towards one of the mills. The *Lucin* often worked in tandem with the 88-foot steam tug *Champion* that usually did the towing of the rafts. In comparison to the bulk of the tugs at Grays Harbor the *Lucin* was small, so she had the job of steering the raft around obstacles and bends in the river.



Depiction of the *Lucin* after her transformation in 1908 *David Peterson*

Neil Logue, Hubble manager for 40 years, said that the *Lucin* was squeezed out of the fleet by the purchase of the 51-foot *Pilot No.1,* built in Astoria in 1915. The Willipa Harbor Lumber Mills, a Weyerhaeuser company, purchased the *Lucin* on September 10, 1937 for $2,500. It is interesting to note that the signature of J. P. Weyerhaeuser Jr. appears on the *Lucin*'s mortgage papers. This ownership would be short-lived however, because Weyerhaeuser bought the *Lucin* mainly to obtain her valuable Atlas engine, then 10-years old, proof of the durability of these older machines. The *Lucin* was run up the Willipa River to Raymond, where Weyerhaeuser hired a local ship's carpenter named Marion Lauderback to remove her engine and install it in the tug *Vamoose.*

The 37-foot *Vamoose*, built in South Bend in 1912, was enjoying the extra power from the *Lucin* 's Atlas engine and the *Lucin* lay in shreds, her cabin top torn away to allow access to her machinery; even her shaft, wheel, and rudder were taken. This could have been the end of the tale of the *Lucin* (no spring chicken at age 44 and without any machinery) were it not for the albacore excitement that was occurring in northern waters.

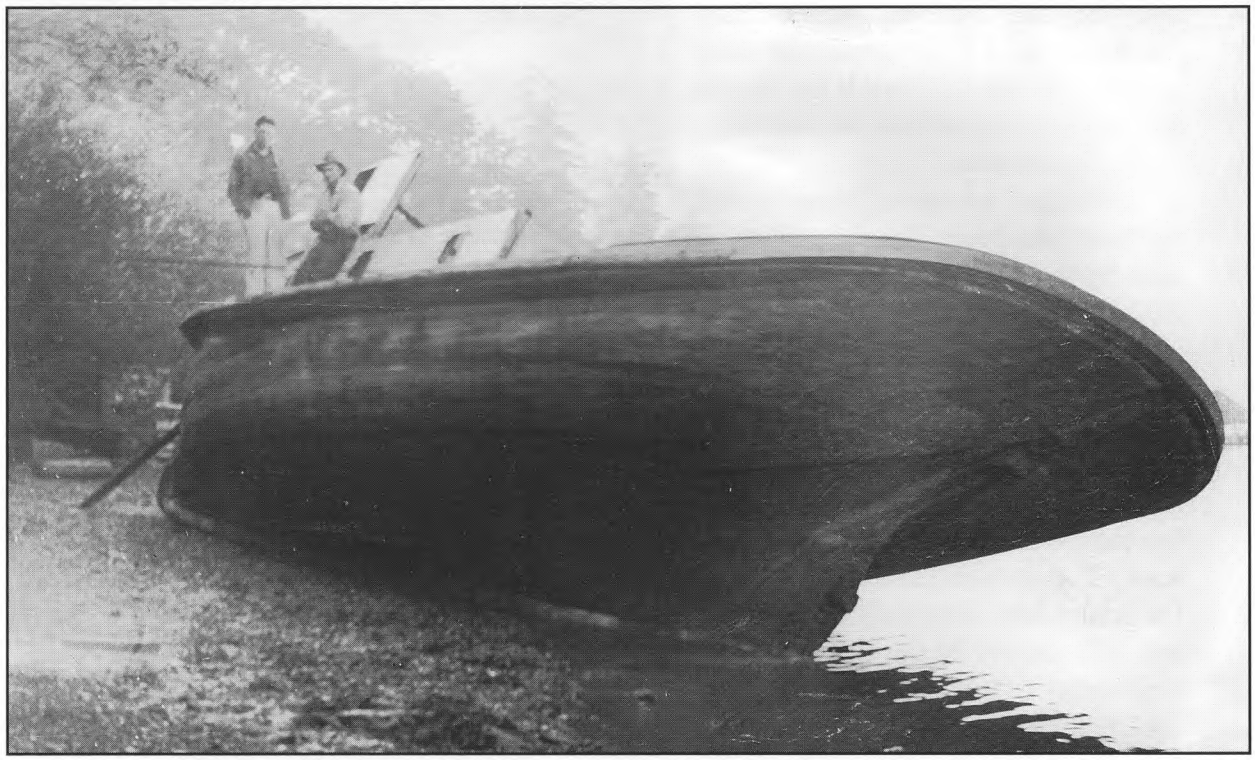
Pioneer Tug Boat Co. purchased the 51 foot *Pilot No. 1* (built at Astoria in 1915) bumping the *Lucin* from their fleet. *courtesy of Carl Christensen, Eureka Fisherman's Marketing Ass. archives*

Jumper schools of albacore had ventured into shore, close enough to be seen by the long-line fishermen in the halibut and black cod grounds. Whichever boat it was that caught the first boatload of albacore is unknown, but you can bet that there is a different story for every port between San Francisco and Canada. At that time there were no near markets for albacore. However, once markets were established, a demand grew for wooden vessels. The crab and salmon fleet along the northern coast consisted mainly of smaller craft, under 40-feet. The longer distance traveled from shore and the large fish hold needed to fish albacore required a larger boat. The vast majority of these new boats were built in Oregon, Washington and Canada. Many were built through the late 1940s, the bulk of which were built in '46 and '47, spurred by the albacore boom, increased interest in salmon trolling and the availability of relatively cheap military surplus diesel engines after the war.

View of Eureka's waterfront taken sometime in the 1930s
courtesy of Art Christensen

Goin' Fishing

Roy Furfiord was 25 years old when he bought the *Lucin* from Willipa Harbor Lumber Mills for forty dollars, on September 14, 1939. Though the *Lucin* would not be considered a very large vessel by today's standards, she must have looked like the *Queen Mary* to Roy. He and his brother were fishing in Willipa Bay with his 26-foot gill-netter and skiff, and in the winter Roy would venture out across the dangerous Willipa Bar to fish for crabs.



The *Lucin* as she appeared on the bank of the Willipa River. Floyd (left) poses with a friend aboard his brothers new boat. *courtesy of Floyd Furfiord*

Sometimes it takes the strength of youth to restore the aged, and for every person who learns the valuable lesson of a seemingly cheap boat, there is one more boat saved. So it was that the *Lucin* was given another chance at life.

If the name Furfiord looks familiar, it's probably because you have seen it stamped on the side of an anchor. Roy's Uncle Mathias invented the famous Furfjord anchor. There is a slight variance in the spelling but it is the same family.

Roy towed the *Lucin* down the Willipa with his gill-netter from Raymond to South Bend, and pulled her up on the bank below his parents' house at Elkland Park. This location was ideal, since Lauderback's Boat Yard was just down river. It was Marion Lauderback that helped Roy convert the tug into a fishing boat. The 1908 pilothouse was removed, as was the deck, guard rails, and protective sheathing on the outside of the hull. Yew wood was used to extend the frame ends up, raising the decks two feet and changing the *Lucin* from a medium-draft tug to a deep-draft fish-

ing boat. The added freeboard gave the boat the extra capacity needed for the fish and made her more seaworthy, for the *Lucin* would be taking on a new role, she would now be going to sea.

Photo of the *Lucin* in transformation
courtesy of Floyd Furfiord

Roy Furfiord and his younger brother Floyd logged the yew wood out of the Cedar River area by hand, packing some of the logs over a quarter of a mile. Once the wood was milled, steamed, and bent into place, the upper part of the hull was planked. A new deck and pilothouse were built. The result was a new and very different looking boat. The *Lucin* received a 150 Cummings diesel, a state of the art engine at that time. Roy's brother Barney even helped out, acquiring a solid brass wheel for the new pilothouse out of a navy ship he was helping to scrap. In 1940, the *Lucin*'s conversion complete, she slid down into the water and went fishing.

In 1941, a steam schooner off the coast of the Willipa River lost part of its deck load of lumber and shingles. Roy Furfiord was headed out to his crab gear when he spotted the lumber drifting and decided to load it on his boat instead of fishing for crabs. With five men on board the task at hand was easy. The men pulled the lumber aboard and stacked it on deck; the bundles of shingles went below. Everything was going smooth, but the men failed to notice the stern dipping below the water behind the four feet of lumber covering the back deck. When they had a full load and were headed back in, Roy sent Floyd aft to check the stern. From Floyd's vantage point high atop the lumber stack, he could see that the stern was under water. He scurried back, shouting the ghastly news, and everyone began throwing lumber off as fast as they could. Still heading for the bay, the men realized that they were not going to make it in before the boat sank. Without a radio on board, Roy turned the *Lucin* around and headed back out towards Doc Nelson on the *Agnes*. Doc had no way of knowing the *Lucin* was in trouble, since her high bow was all he could see. They arrived near the *Agnes* just as the boat was going down. Roy took the last few moments to set the anchor so the boat would stay put once she was on the bottom. Everet Sharp, Merle Hays, Herman Murry, and Roy, ended up in the water; Floyd, however, was able to do a standing broad jump to the deck of the *Agnes* just as the *Lucin* went under. Everyone was pulled from the water, cold but unharmed, and Doc Nelson brought them all in.

SALVAGING DISASTER

The *Lucin* went down in less than 50 feet of water, making her salvage possible. Roy knew the exact location of the boat, because at low tide he could see the top of the mast. The mast light lens was slowly moving back and forth just under the surface of the water, as the Lucin rolled from side to side on the bottom. Roy hired the 58-foot tug *Ruth E*, skippered by Ed Saling, and a diver named Fred Devine, who later became famous for work in salvage.

Fred was successful in getting a cable hooked to the *Lucin*'s bow, and the *Ruth E* started to pull. They didn't make very good time because the anchor was digging in. Melvin Nelson, Doc's brother on board the *Doreen*, joined in to help pull the *Lucin* into port. Once through the entrance of the bay, the Coast Guard took over for the *Doreen*. The extra pull from the Coast Guard was enough to part the anchor line, but even at that, it took over eight hours to drag the boat ten miles. The *Lucin* was towed to Tokland on the southern end of Willipa Bay, where she was hauled up on the mud flats at high tide. When the tide dropped the *Lucin* was pumped out, temporary repairs were made, and the boat was re-floated on the next tide and towed to Marion Lauderback's boat yard where permanent repairs were made.

Damage was limited, considering that the vessel had been dragged ten miles on the bottom. Two inches of the *Lucin*'s gumwood keel had been erased, and four planks on the port side were worn thin. Marion Lauderback remembers replacing the worn planks and cutting the exposed bolts off on the bottom of the keel, but leaving it short. He knew that as well built as the *Lucin* was, the missing bottom portion of the keel would not compromise her strength. With the repairs complete, the *Lucin* slid back into the water and went fishing again.

In 1944, Roy Furfiord caught 120-tons of albacore, which is phenomenal, especially considering the *Lucin* had, at the very most, a 10-ton capacity. Roy sold the *Lucin* in 1946, having made enough money with her to buy the 64-foot *Jacky Jo*.

Roy Furfiord sold the *Lucin* and bought the 64-foot *Jackie Jo* built at Los Angeles in 1941
courtesy of Carl Christensen, Eureka Fisherman's Marketing Ass. archives

In the seven years following Roy's ownership, the *Lucin* changed hands twelve times; mainly between Rodney Bailey, Richard Law, and numerous banks.

In an effort to find out if anything had happened to the *Lucin* while under the ownership of the Bailey's, I called information for Rodney Bailey and was surprised to find that there was indeed a number for this name. Mrs. Bailey answered and explained that her husband had died 15 years earlier, and that she still missed him

very much. She told me that nothing unusual had happened to the *Lucin* while they owned her, and when they sold the boat they bought a farm and were very successful. Mrs. Bailey also said that she always thought that the *Lucin* was a very lucky boat. Mrs. Bailey knew nothing of the *Lucin*'s sinking and salvage or her prior exploits on the Great Salt Lake.

Haman Brothers

In 1953 Richard G. Haman and his brother Duane bought the *Lucin*. These two eventually brought the boat to Eureka where I would inevitably come to know her. Richard and Duane each had half ownership of the boat and fished it together.

On a return trip from albacore fishing, Rich and Duane put into San Francisco because of bad weather, and as fate would have it, that is where Duane met his wife-to-be. Evidently, it was a whirlwind romance and they were immediately married. Rich flew home and Duane and his new bride brought the *Lucin* up at their leisure, on sort of a honeymoon cruise. Duane gave up fishing in 1956 and sold his half of the *Lucin* to Rich.

The calm morning of September 17, 1959, gave no indication as to what would later be taking place out on the albacore grounds. Forced by the weather, a large fleet of boats headed in from 50 miles southwest of Eureka. As they continued their retreat, the weather worsened. Large-breaking windblown seas smashed across their back decks. Everyone was hanging on with sweaty palms, doors closed, hatches tight, and decks filling and clearing.

Lifesaving

With only ten more miles to port, sudden panic from the radio filled the air: the last boat in the pack was sinking. The weather was so bad by this time that no one wanted to think about turning around, let alone bucking into it. But one of the boats in the fleet was the *Lucin*, and Rich Haman, who was alone at the time, received the *Colleen*'s frantic plea. He immediately took a bearing on the radio's directional antenna, and without hesitation spun the *Lucin* around. The boat wallowed deeply in the trough until it came about, and Rich settled in for what would be a forty-minute slug out with the first southwesterly gale of the season.

Aboard the ill-fated *Colleen*, owners Bob Young and his wife Barbara had no way of knowing if help would arrive in time. In desperation they donned their life jackets and did what they could to save the foundering vessel. But the *Colleen* settled rapidly as it rolled in the trough, throwing Barbara, Bob and their dog, Butch, over the side. The couple fought to free themselves of the rigging and on at least three instances waves washed them back into the maze of lines.

The *Lucin* arrived just after the couple had been separated by another giant wave. Rich first came up on Bob, who was still tangled in the rigging. Concerned about getting lines in the propeller, Haman turned his attention to Barbara, who was clear of the lines and clutching the dog in desperation. Rich tried in vain to pull her aboard, but she was so panicked by the ordeal she wouldn't let go of the dog. Finally, after convincing Barbara to release the dog, he was then able to get them both aboard one at a time. By this time Bob had freed himself once more from the rigging,

making it possible for his rescue as well. The couple and their dog had spent thirty-five minutes in the water and were pretty well banged up, but they were very grateful to be alive.

September 18, 1959 - *Arcata Union*

Commercial fishermen absorbed a terrific beating yesterday as the first Pacific storm of the season lashed out. Mr. and Mrs. J. R. "Bob Young of Moss Beach perhaps are the most fortunate couple around. They were rescued from the ocean after spending 35 minutes in the water when their boat sank ten miles offshore. Barbara Young, 29, her husband, Bob, 34, and their dog, Butch, are shown with their rescuer, Richard Haman (right), 36-year-old Fortuna fisherman.

The *Lucin* was 66 years old at the time. Rich Haman was 36. Even though Rich deserved all the credit for what he had done, it should be noted that he had the confidence in the *Lucin* to turn her around and punch his way back out to the sinking *Colleen*. Rich Haman and my uncle, Bruce Campbell, would save the lives of two more fishermen with the next boat Rich owned, the *Elsanor*.

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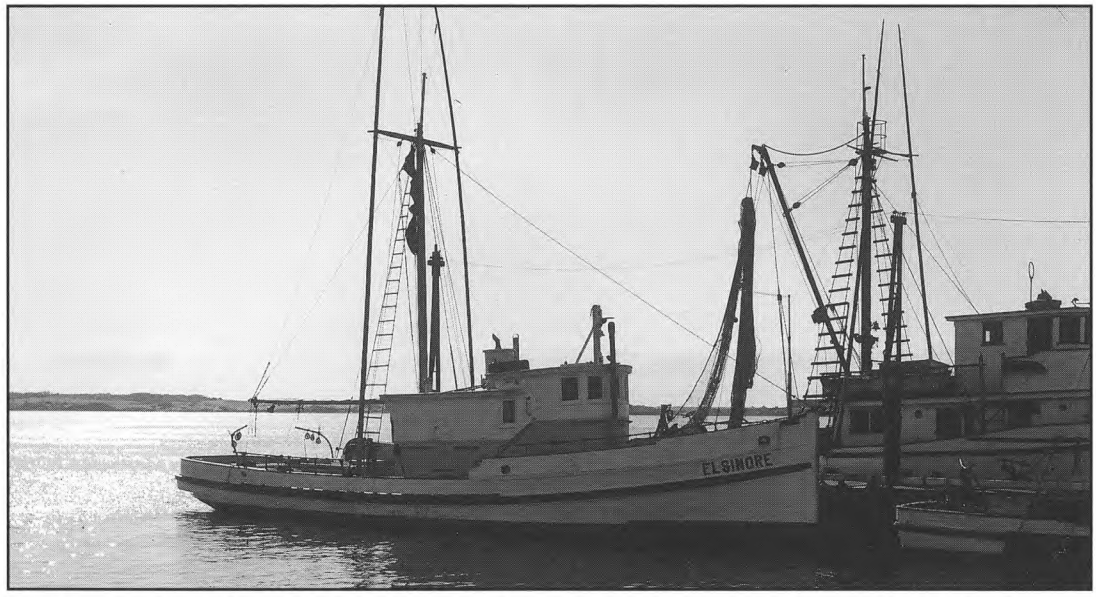
Rescuers and rescued in one of the many sea amas being enacted off the local coast this morning e shown at the time of landing here. From the left e Bruce Campbell and skipper Richard G. Haman of the rescue craft Elsinore and near-victims Douglas Fearon of the sunken Jean Ellen and his crewman, Al Vierra. It was the second dual rescue for Haman in local waters.

Humboldt Times



Like Roy Furfiord, Rich Haman was successful with the *Lucin*, graduating to the 55 foot *Elsinore* (ex - *Carman*) built in 1912 at Docton, WA.
courtesy of Carl Christensen, Eureka Fisherman's Marketing Ass. archives

The Townsends

Rich Haman sold the *Lucin* in 1961 to Arlie Townsend and Ivan Moulton, each owning half. Ivan Moulton would later sell his half to Bud Townsend, Arlie's son. This was the longest ownership in the history of the vessel, from 1961 to 1988. During this period the boat would prove itself on numerous occasions.

It was under the ownership of the Townsends that the *Lucin*'s self-righting capabilities were fully realized. Having been swept from behind by breakers while crossing the Humboldt Bar, one of the waves broached the boat up onto its beam-ends, where it laid for what seemed like an eternity before returning to an even keel and the inner safety of the harbor.

In 1965, the *Lucin* was caught 200 miles off , Oregon, in a 60 mile per hour northwest blow. This time she labored for nearly thirty hours before reaching port.

Once, while salmon fishing off Punta Gorda in typical Gorda weather, Arlie made a tack up the hill against the strong northwest wind and current. Too busy pulling fish to be concerned about anything but the boat's course, Arlie finally returned to the cabin, where he was startled to discover that he had just pulled 25 fish and hadn't covered any ground, in fact, he had gone backward a bit.

The *Lucin* in her berth at Eureka while under the ownership of Rich Haman in the 1950s.
courtesy of Carl Christensen, Eureka Fisherman's Marketing Ass. archives

The Townsends sold the *Lucin* to Joseph Mello in 1988. While anchored at Pigeon Point below Half Moon Bay, Joe and his wife, Peggy, awoke to the sound of

rocks scraping on the bottom of the boat. At some point during the night their anchor gear had failed and they had drifted into the rocks. Luckily, it was flat calm, so with Peggy at the wheel and Joe on the bow giving instructions on which way to steer, they were able to weave their way out of the rocks without any damage to the vessel.

Last Trip

At the age of 99, with only four and a half months until her centennial, the *Lucin* was lost. The following summary of what happened is based on interviews with the parties involved, as well as the official Coast Guard reports and files concerning the incident.

On the morning of August 14, 1992, Joe Mello and Bob Boyle, his crewman, were on the second day of what was starting out to be a rather nasty albacore trip. The *Lucin* and four other boats were running north and working their way offshore. It was blowing twenty-five miles per hour out of the northwest and there was a six-foot swell with a three-foot wind chop — miserable weather, but certainly nothing that would normally be considered life threatening.

Joe Mello had been on wheel watch since about 4:30, unable to sleep because of the weather conditions. The small, scattered fleet was just off the coast of Crescent City in approximately 500-fathoms of water when the dawn that was beginning to break revealed the same horrifying situation to Joe that was experienced by the Furfiords fifty-years earlier: the back deck was awash and the *Lucin* was going down by the stern. Joe immediately broadcast a Mayday on the radio and quickly gave his location to George Formby aboard the *Imojim*. Time was very precious, and Joe knew that without someone knowing their exact location, they would not be found. While Joe and Bob were still in the pilothouse struggling to get into their survival suits, the *Lucin* sank.

By staying on an even keel and not rolling over when she foundered as some boats do, the *Lucin* offered the two men as much time as she could; but the time allowed was only three short minutes, not enough for the men to complete the task of donning their suits and getting free of the cabin. As the boat went under, the cold ocean water rushed through the doorway trapping the men as it sought out the dry innards of the *Lucin*'s fo'c'sole and engine room. Joe was only able to prevent himself from being washed further into the boat by hanging on to the edge of the door opening. Completely under water but still unable to escape, all Joe could do was hold on and wait for all the voids in the boat to become thoroughly filled with seawater.

All commercial fishing vessels engaged in offshore activity on the west coast are required by law to carry what is called an EPIRB (Emergency Position Indicator Radio Beacon) and enough survival suits to accommodate those on board. Joe had both. The EPIRB that the *Lucin* had was designed to release itself from its housing in the event of sinking at a depth of about twenty feet. The satellite was already receiving the silent signal for Joe's rescue, even before he was finally able to break through to the surface.

George Formby, who received Joe's call for help, knew that even running as hard as he could, the *Lucin* would still be an hour away. After Joe didn't come back

to George on the radio a second time, George assumed the worst and called the Coast Guard. George continued to run for about an hour, knowing that he was in the general location of the *Lucin* when the distress call was made, but there was still no sign. George allowed for the set of the current and ran hard for twenty minutes to the south - until he started spotting debris from the *Lucin*. His worst fear was confirmed. The *Lucin* had sunk. George continued looking through the debris until he spotted Joe, who had finished the job of putting on the survival suit in the water, and was hanging on to the EPIRB for dear life.

George and his crewman, Jim Parsley, pulled Joe from the water and continued to look for Bob for almost two hours. After the Coast Guard had resumed the search in the same area, the *Imojim* brought Joe into Crescent City. Several hours later the cutter *Sapalo* spotted Bob's body and the Coast Guard helicopter was dispatched to pick him up.

I knew Bob, and I think I knew him well enough to say that he left this world doing what he loved to do. Unfortunately, as long as humans venture out upon the sea, there will always be the chance of their not returning. As for the *Lucin*, she was resting on the ocean floor once again, this time in over three thousand feet of water, making it virtually impossible for any salvage attempts.

In the *Lucin*'s 99 years she had over twenty-five owners, not including banks. She traveled at least 1500 miles by flatcar and ten miles on the ocean floor. The *Lucin* not only helped to bridge the Great Salt Lake, but she bridged a vast span of history as well: from the unsuccessful experimental flying machines to the space shuttle; from the horse and buggy to modern cars; from the cumbersome box camera to the Polaroid color camera that took the last picture of the *Lucin* on the black cod grounds.

The *Lucin* started her life as one of many working vessels on San Francisco's waterfront, and lasted so long that she eventually became one of a kind. This was symbolized by her unique name. In the 1989 Merchant Vessels book for the entire United States (which also includes recreational vessels) the *Lucin*'s name appears completely alone, with 13 *Lucille*'s above her and 5 *Lucinda*'s below. Indeed there have been boats that have lasted longer and had a more glorious past, but owing to the *Lucin*'s diversity of work and having so many owners, she touched a lot of hearts.

Sometimes when I venture by the *Lucin*'s old slip, I am reminded of a time when Joe Mello rebuilt the 150 Cummings engine and had the boat wide-open from the hold forward. I happened by and took the time to take a good hard look, not knowing it would be my last. I can still remember vividly her century-old innards where they were exposed in the fish-hold, her yew wood sister frames that Marion put in, the white fo'c'sole interior and the bunks where my father and uncle slept as young men.

As I continue on with my life and my boat repair business I am reminded daily, walking by some of the rotting hulks in the harbor, of how the *Lucin* could have spent the last of her days. Her moldy tie-up lines forming permanent knots on the cleats, her bottom so overgrown with vegetation that she harbors her own eco-system, and

then finally, forced by burden, the owner disposing of her. But this was not to be; the *Lucin* is with her sisters, the working boats, the ones that earned their keep and were lost in that commission.

Somewhere off the coast of upper California in over a half-mile of water lie the remains of a century old vessel. Sitting on the cold bottom dark as sackcloth, ships borers will reduce her to only machinery and rigging, which will then settle into the silty bottom. Eventually, no more will remain of the *Lucin* than of the trestle she helped to build.

The last photo of the *Lucin,* taken while fishing black cod off the coast of Eureka, 1991.
David Peterson collection

Authors Note

Anyone with corrections, or additional information that could add to the research I have done in this work; please don't hesitate to contact me. Any photos that may add to the photo collection shown would be greatly appreciated: a photo of a launch on a flat-car and a good photo of the Lucin *as a tugboat could not be found anywhere. Please check your attics!*

My goal is to accurately save the history of these vanishing boats, so if you know a story as remarkable as the Lucin*'s please contact me. I would love to hear the story and help research it further.*

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Jim Blum, friend of Rich Haman.
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Mrs. Bayley, wife of Rodney J. Bayley (ex owner of *Lucin*).
Lynn Farrar, Valuation Engineer for Southern Pacific as well as consultant for 48 years, and known Railroad Historian.
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Robert Berton, former Southern Pacific Engineer also consultant for the Lucin Cutoff trestle dismantling.
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Bud (Henry) Thiemann, son of Henry Thiemann launch operator on Southern Pacific's Lucin Cutoff project).
James Silver, owner and promoter of Saltair III.
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Joe Mello, last owner of the *Lucin*.
George Formby, Joe Mello's rescuer.

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"This is the story of a small boat whose travels from San Francisco Bay to the Great Salt Lake, then back to the Pacific Coast states of Washington, Oregon and California, there to end her days, is almost certainly unique. Along the way she assisted in the building of a railroad trestle across the Great Salt Lake, considered at the time an engineering marvel. It encompasses a long life of service to multiple owners engaged in several occupations. And it includes details of sister craft that could have a story all their own. Truly an interesting saga." **Lynn D. Farrar, Railroad Historian, Valuation Engineer for Southern Pacific and consultant for 48 years**

"I enjoyed very much reading about the *Lucin* and of the relationship between Southern Pacific and the many vessels that it used at one time or another on the Great Salt Lake projects. This is really a monumental labor of love." **Don L. Hofsommer, Professor and Chair, Department of History, St. Cloud State University and author of** *The Southern Pacific 1901-1985*

"...a fine job of bringing together interesting information on an unusual aspect of our nation's history." **J. Revell Carr, President & Director, Mystic Seaport Museum**

"...a captivating general interest story....The material on the important Lucin Cutoff construction project is not published anywhere else, and the author provides a better overview of shipping on the lake than is found elsewhere." **John R. Alley PH.D., Executive Editor, Utah State University Press**

David Peterson gained an admiration and respect for sturdy old wooden boats at a very early age. Born in a fishing town with a fishing father and grandfather he has spent his life working in, on, under, and around the old boats. After years of fishing on other boats he rebuilt and fished his own boat. Then he turned his career toward his own wooden boat repair business based in Eureka, California.

The author, shown here in his element, has had to realize that although he diligently repairs and rebuilds the old wooden boats, they can't all be saved. So he has taken on the task of recording their history before they vanish.

ISBN 0-9706383-0-2

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$16.95