

TUNNEL 6

The Transcontinental
Railroad's 1867
Donner Summit

**The
Most Interesting
Unknown
Historical Spot in
California**

A Marvel of 19th Century
Engineering

Donner Summit's Transcontinental Railroad

TUNNEL 6

**“the grandest engineering feat
ever attempted by man.”**

19th Century Hyperbole

1866 – Bam, bam, quarter turn; Bam, bam, quarter turn; bam, bam, quarter turn. All day long, three shifts a day, day after day, week after week for two years, Chinese workers pounded away. One worker held a drill bit, turning it a quarter turn as two other workers pounded the bit with 8 lb. sledges. At four separate faces teams

worked making progress that was measured only in inches a day as they cut through the rock. Once a hole was drilled, it was packed with black powder, the fuse was set, and the workers ran.

**If only the Sierra
might be pierced.**

Atlantic magazine
December, 1867

When the smoke cleared, the rubble was hauled out - all by hand; there were no machines.

Every year after snow melts hundreds of people make the discovery of the tunnel on Donner Summit. They walk, bike, and even drive through from the old highway to the views of Donner Lake on the other side.

Few know the tunnel is the crowning achievement of mid-19th century engineering. It goes through 1659

feet of solid granite at 7000 feet in elevation. From one end to the other there is a 30 foot elevation change and a curve. The tunnel is also the victory of hundreds of Chinese immigrants over the Sierra granite.

**The “undertaking
was preposterous”
but they did it.**

Von Nostrand's
Engineering Magazine,
January 5, 1870

The tunnel enabled the crossing of the Sierra by the transcontinental railroad.

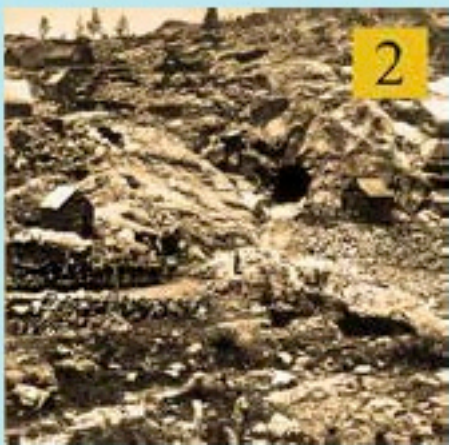


Few know too, of all of the history on the eastern side: China Wall; Native American petroglyphs thousands of years old; the first transcontinental highway, the Lincoln Highway; and the route of the first wagon trains to California. All are

easily seen and explored on the other side of Tunnel 6.

It was a race, the C.P.R.R. going east and the U.P.R.R. going west. The railroads received Federal money based on the miles of track they laid: the faster track could be laid, the more money for the railroads. The 15 Sierra tunnels were

slowing the work of the CPRR and the pay. Tunnel 6 was the longest and hardest, 1659 feet long through the hardest rock on the continent. The workers worked at first from two faces going into the granite from the west and the east but were making progress of only inches a day.



Even with two faces it was taking too long. If they couldn't lay track they couldn't collect Federal money. They had to go faster, but the solid granite was hard.

They sank an 8 X 12 shaft above the center of Tunnel 6 so the Chinese workers could bore through the granite from four faces instead of two. They could go twice as fast, but still only made 14 inches of progress a day.

There was beautifully flat land to the east. They could lay track quickly there, if only they could get done with the tunnels.

Then, a solution. A locomotive, parts for railroad cars and rail for forty miles of track were hauled over the

Summit wagon roads, right next to the Tunnel 6 site so construction could proceed on the flats.

Meanwhile, working all four faces at once and working night and day seven days a week, work continued on the tunnels. Tunnel 6 would take two years to complete.



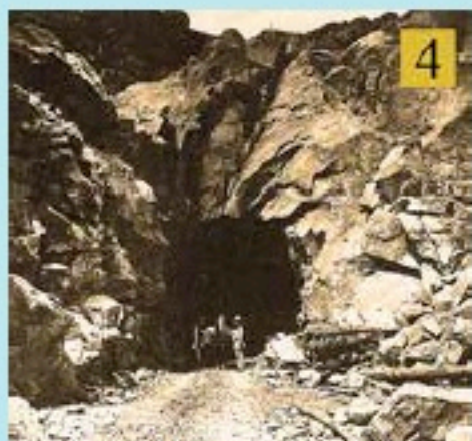
It was dangerous work for the mostly Chinese. They endured frostbite, avalanche, accident, pneumonia, explosion, rock slide, disease, and cold, continual cold. During winter the workers sometimes went weeks without seeing the sun as they traveled from their camps to the work through snow tunnels.

In the tunnels they worked by candle and lantern light. The air was filled with rock dust and black powder residue.

“Without the Chinese, it would have been impossible to complete the Western portion of this great national highway.”

Leland Stanford

For the work, the danger and the discomfort, the Chinese earned \$28, then \$30, and finally \$35 a month, less than whites who also had their board covered by the railroad.

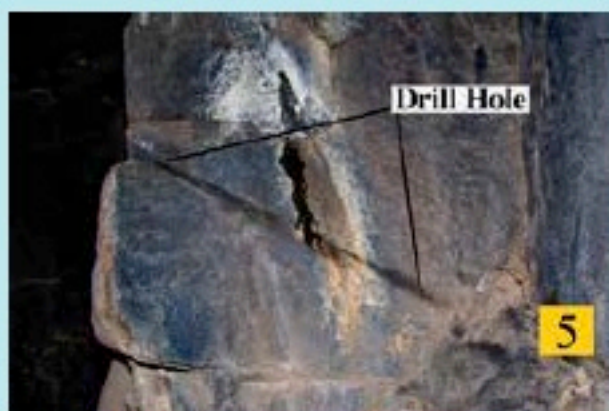


The first train went through in December, 1867 and the railroad would be finished in May, 1869. Where it had taken 4 or 5 months to cross the continent in a wagon train and 25 days in a stage-coach, travelers could cross the country at the unheard of speed of 22 miles an hour in just 10 days.

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“The drillers are all Chinamen, and most excellent hands they make, as will be seen when I state that a gang of three can drill three holes of one and a quarter inches in diameter and two and a half feet deep in twelve hours.”

Sacramento Union April 22, 1867



“We slept at the Lake House; and spent the next day with the surveyors among the precipitous granite ledges, and visiting Lake Angela, a lovely little mountain gem. It was like picnicking at the North Pole; for snow lined higher ravines and icicles hung from the water-tanks on the stage-road. Here during the previous winter, two laborers were engulfed by a snow-slide. Seeing it approach they stepped behind a tall rock; but it buried them fifty feet deep. In spring their bodies were found standing upright, with shovels in their hands.”

Beyond the Mississippi 1869

Albert Richardson

Photographs

All of the photographs except #5 are half stereopticon slides taken by Alfred A. Hart, CPRR photographer, about 1866

1. Unfinished Tunnel 6
2. East portal
3. Chinese workers
4. East portal
5. Drill hole remains from splitting rock, photo taken Fall, 2011
6. Shaft house atop central shaft containing donkey steam engine, hoisting equipment, storage, and blacksmith
7. Freight wagons below east end Tunnel 6





Hwy 40 Scenic Bypass

Charlie Chaplin's Gold Rush

History

Learn... Emigration... Politics... Discover Why all of "The Gold Rush" took place here at Sugar Creek and Donner.

"The Gold Rush," a series of political, economic and military events that brought the first all-American gold rush to the West. The first gold was discovered in 1847 in the Sierra Nevada mountains. It was the first gold discovered in the United States and it was the first gold discovered in the world.

Charlie Chaplin first came to the United States in 1897 for the first time. He was a young boy, the youngest of six children, and he was looking for a better life. He was a poor boy, and he was looking for a better life. He was a poor boy, and he was looking for a better life.

A Good Story



As Gold Mining boomed in the "Sierra of the West," during the late 1840s, many of the early gold miners and their families fled the West.

The story was written by the author of the book "The Donner Party" and it was published in 1964. It was a book about the Donner Party, a group of people who were trapped in the Sierra Nevada mountains in 1846.

Things to do right here

There are many things to do in the area. You can take a walk on the "Gold Rush Trail" and see the "Gold Rush Trail" and the "Gold Rush Trail". You can also see the "Gold Rush Trail" and the "Gold Rush Trail".

See us at the Sugar Creek



Donner Summit Historical Society
www.donnersummithistoricalsociety.org



20 Mile Museum

Visit the Donner Summit Historical Society's 20 Mile Museum with interpretive signs from Nyack on I-80 at Emigrant Gap to below Rainbow Bridge on Donner Summit's Old Highway 40.

Like the example above, each sign tells the history of the spot, a good story, and activities to do right there.

The project and its 34 signs were conceived, implemented and supported by the Donner Summit community and are part of the National Geographic's Geotourism project.

For more information or to receive free The Heirloom, monthly stories about Donner Summit history go to:
<http://www.donnersummithistoricalsociety.org/>

Donner Summit Historical Society
P.O. 1
Norden, CA 95724

www.donnersummithistoricalsociety.org
at the blinking light in "downtown" Soda Springs

Building Tunnel 6 Today

Boring machines are used to bore tunnels. A circular boring machine can bore a tunnel 20' in diameter at a rate of about 50 feet a day. Making Tunnel 6 today would take about a month, rather than the two years it took in 1866-67.



2012 DSHS annual poster on sale at the DSHS