

Be Informed About The Dam

Local people, it is said, do not appreciate the magnificence of the Oroville Dam project. They have lived with it in prospect for so long that now it is here, they shrug and write it off. Visitors appreciate it more than we do. With this in mind, the Mercury will publish for some time the following table of statistics.

OROVILLE DAM

Height 770 feet
 Base Width (up & downstream) — 3,500 feet. (10 city blocks)
 Crest Length 6,800 feet (1.29 miles)

Taller than a 70-story skyscraper and the product of the greatest earthmoving job in history, Oroville Dam took its place as the highest dam in the United States on Oct. 5, 1967, when the crest of the dam was brought to its maximum elevation 770-feet above its base.

The giant embankment is the highest earthfill dam in the world and the highest dam of any kind in the nation.

The dam was built by Oro-Dam Constructors under a \$123-million contract—largest non-defense construction contract ever awarded in the U.S.—awarded in 1962.

For five years, on a round-the-clock basis, railroad trains and conveyor belts transported more than 150 million tons of clay and rock to the construction site from dredger fields 11 miles downstream.

At the construction site, the material was loaded in 100-ton lots into "bellydump" Athey wagons for placement on the embankment. Giant rollers then compacted the material in place.

Heart of the dam is its impervious-clay core, protected on both sides by thick layers of rock and sand. The clay rises from a concrete core block embedded in the bedrock of the river channel through the center of the embankment.

LAKE OROVILLE

Surface Area (Maximum Level) 24 square miles
 Capacity 3½ million acre-feet
 Shoreline (Maximum Level) 167 miles
 Maximum Depth (At Oroville Dam) 682 feet
 Maximum Length 21 miles

Lake Oroville was born Nov. 14, 1967, when the second of two diversion tunnels that had carried the Feather River beneath the embankment during construction was blocked.

Lake Oroville is the keystone of the State Water Project. Using it as the main reservoir, the state Department of Water Resources will eventually be delivering 4.5 million acre-feet of water annually to parched southern California.

Los Angeles County will take first deliveries in 1971 and San Bernardino and Riverside Counties in 1973.

FEATHER RIVER PROJECT

Oroville Dam and Lake Oroville are parts of the Feather River portion of the State Water Project.

Beneath the dam a giant cavern almost as large as the State Capitol Building has been hollowed out to house six power generation units. Coupled with four additional units in the Thermalito Powerplant, they will generate more than 2.8 billion kilowatt-hours of power annually.

—Other facilities of the project are the Thermalito Forebay and Afterbay holding reservoirs located downstream that enable utilization of a "pump-back" procedure whereby water released from Lake Oroville to generate power during "peak need" periods is pumped back into the lake during off peak periods for recirculation through the powerplants.

FEATHER RIVER FISH HATCHERY

Located across the Feather River from Oroville is the \$3.2 million Feather River Fish Hatchery, built to handle salmon and steelhead cut off from upstream spawning grounds by Oroville Dam.

First WPRR train traverses rails of Feather River Canyon route 60 years ago

by James Lenhoff, president
California Heritage Council

(1969 marks the 60th anniversary of the completion of the Western Pacific Railroad and the 20th anniversary of the California Zephyr.)

Although it far overshadowed any other celebration this year, the auspicious Transcontinental Railroad Centennial, culminating in the dedication of a new national park at Promontory, Utah, on May 10, was not the only railroad centennial for 1969.

The year also marked the 100th anniversary of the beginning of construction of the Feather River Canyon route by the ambitious Oroville & Virginia City Railroad. That same year the Virginia & Truckee Railroad was also started; it was designed to connect with the Oroville venture at Reno.

It was on April 2, 1867, that two miners and a lawyer incorporated the Oroville & Virginia City Railroad in order to build a sensible, year-round gradual ascent over the Sierra Nevada via the picturesque Feather River Canyon and Beckwourth Pass route. William A. Bolinger and R. C. Chambers operated the Crescent Mines in Indian Valley near Greenville. John D. Goodwin practiced pioneer law at nearby Quincy.

The odds against getting the railroad off the ground were monumental. Not only would vast sums of capital be required to build the line, but the Central Pacific Railroad, have just completed its precarious, snow-infested route over Donner Summit, was not about to tolerate an all-weather route in competition to its own.

When San Francisco capitalist Asbury Harpeding agreed to back the Feather River venture, he was financially compromised by the Big Four and was forced into receivership. General William Rosecrans was also persuaded to abandon the idea. Attempts to secure eastern backers were also aborted by Colli: P. Huntington, who personally went to New York to dissuade interested parties.

Despite these odds, Bolinger still managed to get the state legislature, after throwing a big party in Sacramento, to pass an act authorizing Plumas County to subscribe to \$200,000 in bonds to assist in the building of the line. However, the Board of Supervisors conveniently resigned rather than issue the necessary bonds.

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When ground was broken in 1869 to build the Virginia & Truckee Railroad from the Comstock lode to Reno, things looked up for awhile. The California Northern Railroad from Marysville to Oroville had been built in 1864. The missing Feather River link would connect the two lines and open up a vast area of mineral, timber, and agricultural wealth.

Ground for the Oroville & Virginia City Railroad was finally broken on March 27, 1869, at Oroville as 30 experienced Chinese veterans of the transcontinental project started grading between Thompson Flat and Morris Ravine. Newspaper editor George Crossette scooped up the first spade of earth as hundreds of people cheered. That night the town wallowed in booze and food.

Writing to Goodwin the following day from his room in the busy Union Hotel at the corner of Myers and Montgomery streets, Arthur Keddie, the young Scot surveyor hired to locate the line, said things were off to a grand start, and he was leaving forthwith to commence his epochal survey not to exceed 1% average grade.

While Bolinger was down in San Francisco promoting capital for the railroad, Chambers was busy digging gold from the little mine at Indian Valley. The weekly clean-up proving insufficient to promote a major railroad and buck the Big Four at the same time, Bolinger suggested a mortgage on the mine might help during this most crucial hour. This effort failed, and work on the line closed down before it had extended more than a couple miles up the banks of the Feather River.

The coup de gras came in 1871 when the State Supreme Court (purportedly under the influence of the Big Four) ruled on a technicality that the corporation was illegal. The Oroville & Virginia City Railroad became a part of history before it ever was. However, the dream did not perish with the ill-fated venture. The route was, after all, too practical.

In 1873 Caleo Fay, a San Francisco capitalist, promoted a narrow gauge up the canyon, but the proposal failed for lack of interest. In 1892, a group of disgruntled San Francisco businessmen incorporated the San Francisco & Great Salt Lake Railroad Co., hoping to build the Feather River line and circumvent the excessive freight

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rates imposed by Southern Pacific. A survey was actually completed, proving the feasibility of the Feather River route, but again the venture folded for lack of capital. In order to quell these sporadic movements to build a Feather River Line, S.P. bought the California Northern between Oroville and Marysville.

Finally, on March 6, 1903, under the secret guidance of George Gould, the Western Pacific Railway Company was incorporated and filed in Sacramento. This time, backed by almost unlimited funds, the enterprise was destined for success from the very beginning. Gould needed a Pacific terminal for his Denver and Rio Grand Western Railroad, which was bottled up at Salt Lake City. After the death of C. P. Huntington in 1900, the Harriman family had gained control of Southern Pacific and tied it firmly to its Union Pacific line, which was in direct competition to the Denver and Rio Grande. (Harriman bought the Union Pacific at a foreclosure sale for a fraction of its costs.)

So as not arouse suspicion and possible abortive measures, the survey for the Feather River route was conducted in utmost secrecy. For an extra measure of assurance, a mining company was even formed to lay bogus claims along the route. Finally, in 1905, Gould proudly announced that construction on his new, all weather route would commence. On January 2, 1906, in downtown Oakland, the first spike was driven.

Three years later, on November 1, 1909, two crews met in the middle of Spanish Creek Bridge near Keddie and drove the final spike. There was little or no ceremony on that day. Only Leonardo D. Temasso, track foreman, was the ranking official on hand. Over 900 miles of track had been completed with a miraculous 1% grade average. The Western Pacific had crossed the mighty Sierra Nevada at a peak elevation of only 5,003, compared to 7,200 for the Southern Pacific. The new line was part of a 13,708-mile nationwide railroad system.

The official celebration took place on August 21, 1910, when the first passenger train, loaded with officials and dignitaries, departed Salt Lake City. Thousands of people gathered at half-completed depots along the way. In Quincy, Arthur Keddie, now 68 years of age, gave the main address from the courthouse steps. In Oroville, passengers disembarked from the train and walked down Montgomery Street in a flower-strewn parade of warm welcome. When the train reached Oakland on August 22, it passed through a spectacular triumphal



PIONEER SURVEYOR - Caricature of Arthur W. Keddie, Western Pacific Railroad surveyor, hands in County Museum.

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arch. Thousands cheered. Over 100 men had perished in the building of the line. They were, of course, suitably eulogized during the gaudy ceremonies. Commenting on the occasion, a local newspaper stated, "Through canyons to the waters of the West, the Western Pacific led its iron stallions down to drink."

On December 1, 1909, the first through freight train passed over the line.

The original estimate to build the line and equip it had been \$35-million. However, the final cost was closer to \$78-million. (Incidentally, the cost to relocate 25 miles of the line around Lake Oroville exceeded \$25-million.) The burden of the debt would end up bankrupting both the Western Pacific and the Denver and Rio Grande. Gould would soon lose control of his railroad empire. In 1915, the Western Pacific Railroad was forced into receivership. In 1916, it was sold to creditors on the steps of the Oakland station. This was a big come down for an enterprise which had been lauded in glowing terms at the same site only a few years before.

Then, in 1917, President Woodrow Wilson nationalized all the railroads in the country, putting his son-in-law in charge. Naturally, preference was shown to the powerful Southern Pacific line. Finally, in 1920, the railroads were restored to private ownership management, and the W. P. was off again.

Terrific freight and passenger increases during World War II pulled the W.P. out of the hole and on March 20, 1949, the famous California Zephyr passenger train was inaugurated.

One hundred years after the Feather River route was first commenced, hearings are being held to discontinue the Zephyr, the last passenger train on the line. The round house at Oroville was abandoned this summer and its 100 employees transferred to a new facility at Stockton. Nevertheless, the over-all picture for the Western Pacific looks good. It has been paying regular dividends to its stockholders and is making numerous improvements.

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CELEBRATE BUILDING OF WP RR - The Quincy Band turned out in full regalia to welcome the first passenger train over the new Western Pacific Railroad at Hartwell (Quincy Junction). In this photo from the files of the Museum, donated by Mrs. J. N. Stephen, the musicians

include, left to right, rear, Arthur C. Berg, Warren J. Broden, Phateon Cato, William Light, Jake Stephan, Harry L. Gate and Prof. Wilson, the leader; front, William McNair, Charles S. Myers, J. Morgan Haun, Henry J. Hoffman, John Wilson, Clarence P. Moseley, Horace P. Mc-

Beth and W. T. Forson, plus two unidentified little boys. Others in the local crowd that greeted the train included Harley Flournoy, A. A. "Doc" Hall, W. J. Miller, E. E. Huskinson, C. J. Lee, H. G. Dorsch and Judge J. A. Man- cur.