

THE ORIGIN OF THE
PIPELINE TRAIL
MILLCREEK CANYON

JULY 2024

The Pipeline Trail

Members and guests of the University of Utah Emeriti Faculty Hiking Group---ably led by Suzanne Stensaas and Kathy Alderson---have often inquired about the origins of the Pipeline Trail in Millcreek Canyon. Not much is written in the historical record, but a good many years ago Professor William T. Parry wrote an article entitled *Mill Creek Canyon Wooden Pipelines* (Utah Historical Society, n.d.). The following information is mainly derived from that source along with Charles Keller's wonderful and lively book *The Lady in the Ore Bucket* (University of Utah Press, 2001), which discusses the high Wasatch Mountains east of the Salt Lake valley. Please be forewarned of any inaccuracies in this short summary.

First of all, a little background. The watershed of Millcreek Canyon covers 21.3 square miles, making it the fourth largest contributor to the valley water supply. The paved road in the canyon is 8.9 miles in length from Parkview Drive to the Upper Big Water parking lot. And beginning around 1850, the canyon supported numerous sawmills to provide lumber and firewood for the growing city. One of these mills was operated in Porter Fork by an early pioneer, Chauncey W. Porter, who left his name before departing the canyon for Centerville with his wives and children in 1855. All 14 of the large timber mills, operated by waterpower, were gone by 1920 and so were the big trees that they depended on.

Creating hydroelectric power from water generation in turbines was a relatively new development before 1900. In Big Cottonwood Canyon, a plant built next to the road in 1895 is still producing hydropower.

In Millcreek Canyon, the first of three pipelines was built in 1907 from Elbow Fork to the general vicinity of Porter Fork, or Burch Hollow, where a small power plant was constructed. This pipeline was 1.7 miles in length, or 9,135 feet, with a drop in elevation from about 6600 feet to 6000 feet. It was built mostly of California redwood, and it had a diameter of 22 inches. A small dam at Elbow Fork provided a steady flow of water for the pipeline, which was fashioned of wooden staves and riveted steel in places. This pipeline was routed along the north side of the canyon in trenches and when it reached the area above Porter Fork, its water dropped about 300 feet in a steel penstock to the turbines of the power plant below. There was another small dam at this point to control water exiting from the power plant. It existed on the creek until it was removed in 2016 in order to improve fishing. You may find its approximate location today on the boardwalk just above Porter Fork, or 4.1 miles up the canyon road.

A small second pipeline built at the same time had an intake on the creek in Porter Fork and also delivered water to the power plant. It was quite short. Eventually, this power plant became known as the "upper plant" and it generated about 300 kw, most of which was transmitted at 16,000 volts over a 12-mile line to the Salt Lake Pressed Brick Company, which was owned by a Mr. John P. Cahoon at that time.

Drawing upon the success of the first two pipelines, a third pipeline was built in 1910, in response to a request from the U.S. Smelter in Midvale. A Provo mining magnate and philanthropist, Jesse Knight, needed power for the smelter that processed minerals from his holdings in the Tintic mining district. This larger, lower pipeline took water—not all of it— from the original pipeline at Porter Fork and delivered it to the Pipeline Overlook, a distance of 4.5 miles and the western end of the trail. Here the water gained considerable velocity as it dropped steeply some 600 feet in steel penstocks to two turbines in the power plant at the mouth of the canyon. These turbines generated 560 kw each and power was sent on to the smelter. At the west end of the Overlook Trail, a y-shaped piece of steel pipe, which is still visible there (see photo), directed water down to the power plant or, when there was excess water, directed it to the north so as to reduce water pressure that could burst the pipe. Straight-line gullies from the Pipeline Overlook can be seen on both sides of this mountain, which by the way, old-timers refer to as Beehive Mountain (see photo). Some of the power for the smelter was also diverted for Salt Lake City's first electric streetcars and street lighting.

With a diameter of 30 inches, the lower pipeline was able to carry about twice as much water as the earlier one and to generate more power. It was made of treated Douglas Fir, which was probably cheaper than redwood, and easier to work on. As Kristin Iversen wrote in the Salt Lake Tribune of July 1, 2007, "To make the pipe, workers laid a U-shaped form, then used it to lay the bottom half of the pipe using staves milled to form a cylinder. Each stave was joined to the next with a steel plate inserted in a groove in the ends. The crews then used another form to lay the top half of the pipe. They encircled the completed pipe with thick wire bands secured by metal shoes and tightened with a nut. You can still see remnants of these bands and shoes on the trail."

An advantage of wood is that when kept saturated it will not rot very quickly. It is easier to repair than steel and lighter to carry up the mountain. In the winter, water will not freeze in the pipe as long as it is kept moving. The lower pipeline was not placed in a trench like the upper but was laid upon ground that had been graded and prepared for it.

Some hikers have observed the steel elbows that remain along the trail. These were placed at corner points to strengthen the pipe where the water pressure was at its highest as it traveled in a sharp angle to follow the contours of the canyon. At these points, hikers have often been perplexed to see water going uphill in the pipe, an apparent anomaly. It can be explained by a constant flow of water coming in from above which pushes water along over relatively short distances at a low gradient. This requires a pipe that does not leak.

It should be noted that several portions of the present-day Pipeline Trail have been modified from the original routing, especially in the Porter Fork area.

There seems to be no information about the workers who built the trail.

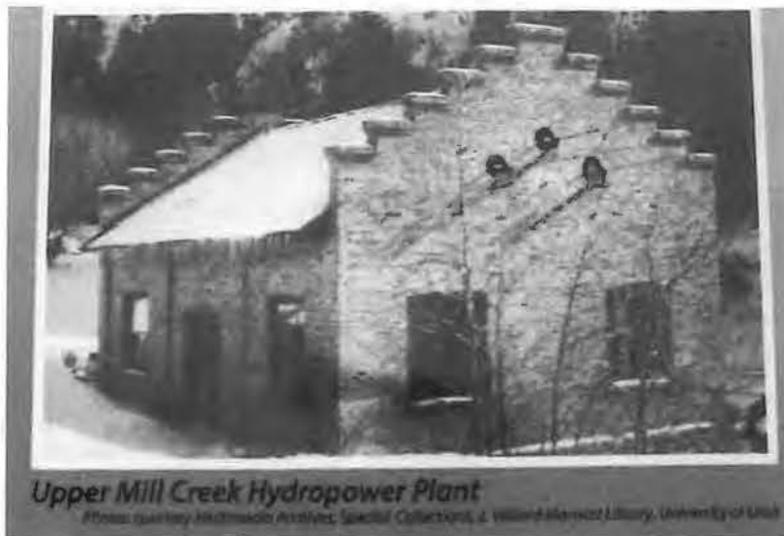
Utah Power and Light purchased the pipelines and power plants from Jesse Knight in 1912. The lower pipeline and plant were removed in 1949 and 1950 because the pipeline was rotting

and leaking and deemed unsafe. The upper plant was closed in 1970 for economic reasons although it was still in operation. Very little remains today of the era of the Millcreek pipelines-- only a beautiful and wondrous trail of 6.2 miles for all seasons. --- Jim King, July 2024

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LOWER MILL CREEK STATION
Constructed by Knight Power Company
1931



Upper Mill Creek Hydropower Plant

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