

DENVER & RIO GRANDE RAILROAD, SAN JUAN EXTENSION,
WATER SUPPLY SYSTEMS
(Cumbres & Toltec Scenic Railroad, Water Supply Systems)
Chama
Rio Arriba County
New Mexico

HAER NM-19
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WRITTEN HISTORICAL AND DESCRIPTIVE DATA

FIELD RECORDS

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240-0001

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HAER No. NM-19

- Location:** Extending between Chama, Rio Arriba County, New Mexico, and Antonito, Conejos County, New Mexico
- Dates of Construction:** Various
- Builders:** Denver & Rio Grande Railroad
- Original Owner, Use:** Denver & Rio Grande Railroad, steam locomotive boiler supply
- Current Owner, Use:** Cumbres & Toltec Scenic Railroad, various
- Significance:** The Cumbres & Toltec Scenic Railroad has one of the best preserved late nineteenth and early twentieth-century steam railroad water supply systems remaining in the United States.
- Description:** The Cumbres & Toltec Scenic Railroad is a 64-mile section of the former Denver & Rio Grande Railroad. There are eight tanks and reservoirs in use along the route. A redwood tank at Antonito, Colorado, dates to 1912 and replaced a pre-1883 one. It was in use until 1968. At Lava, New Mexico, a redwood tank was erected pre-1883 and replaced with another one in 1918. An underground concrete reservoir was built in 1939 to replace a water tank at Sublette, New Mexico. It has a 34,000-gallon capacity. In Osier, Colorado, a redwood tank was constructed in 1921 as a replacement for a wooden tank built before 1883. A wooden tank was built at Los Pinos, Colorado, in 1884, but its deteriorated condition led to its replacement in 1930 or 1931 with a smaller one. At Cumbres, an underground concrete reservoir was installed in 1940 to replace the 1883 tank. In Cresca, Colorado, a water tank was built in 1893, and it still remains, although its capacity was reduced to 18,000 gallons. The

original, 1897 wooden tank is also extant at Chama, New Mexico, but it is not in use. There is a concrete collection well at this site as well.¹

The standard water tank of what was then known as the Denver & Rio Grande Railroad was 22' in diameter and 15' tall. The capacity was about 40,000 gallons. Wooden staves measuring 2-⁵/₈" thick form the sides of the tank. Malleable steel bands 4-¹/₂" wide hold the staves together and form the circular tanks. The use of these bands was discontinued in the early 1900s when it was found that they could rust from the inside. Some of these bands do still exist on water tanks at Antonito, Cresca, and Chama. Steel rods were later used to hold the tanks together instead. A system of counterweights and chains was installed on the tanks to raise and lower the spouts. The valve controlling the flow of water to the spout was located inside the tanks while the water level indicator was outside.

History:

The Cumbres & Toltec Scenic Railroad is said to be the longest all-steam railway operating in the United States. The line was built in 1880 as a narrow-gauge steam railroad. The remaining water supply systems along the line are representative of the types used for steam locomotive boiler supply throughout mountainous regions in the 1880s and 1890s. In 1969, New Mexico and Colorado purchased the line in order to prevent its destruction. At the present time, it is administered by the Colorado and New Mexico Society for the Preservation of Narrow-Gauge, Inc., a non-profit organization.

Sources:

Athearn, Robert G. *Rebel of the Rockies, and History of the Denver and Rio Grande Western Railroad*. New Haven, Yale University Press, 1962.

Beebe, Lucius and Charles Clegg. *Rio Grande, Mainline of the Rockies*. Berkeley, CA: Howell-North, 1962.

Taylor, Herbert, Alamosa, California. Interview by field team, July 23, 1971.

Thomas, Frank H. "Evolution of Railroad Route-to-Region Relationships: A Case Study of the Denver & Rio Grande Western Railway." *The Journal of Geography* LXII, no. 9 (December 1963): 389-397.

Historians:

Steve Rae and T. Lindsay Baker, July 23-24, 1971

¹ Information on extant structures provided by Herbert Taylor, interview by T. Lindsay Baker, July 23, 1971, copy included in the field records accompanying this documentation.

**Project
Information:**

The Cumbres & Toltec Scenic Railroad, Water Supply Systems were inventoried for the Historic American Engineering Record as part of the Southwest Water Resources Project, a joint project with the Texas Tech Water Resources Center. The survey was subsequently published as *Water for the Southwest: Historical Survey and Guide to Historic Sites* by the American Society of Civil Engineers in September 1973.