

BURLINGTON NORTHERN SANTA FE RAILROAD,
CAJON SUBDIVISION , STRUCTURE NO. 64.9
Between Cajon Summit and Keenbrook
Devore vicinity
San Bernardino County
California

HAER CA-2259-M
CA-2259-M

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
PACIFIC WEST REGIONAL OFFICE
National Park Service
U.S. Department of the Interior
1111 Jackson Street, Suite 700
Oakland, CA 94607

HISTORIC AMERICAN ENGINEERING RECORD

Burlington Northern Santa Fe Railroad, Cajon Subdivision,
Structure No. 64.9

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Location: BNSF Railway (BNSF) Railroad Structure No. 64.9, a T-rail-on-concrete bridge, is located at Milepost 64.9 on Main Tracks 1 and 2, Devore vicinity, San Bernardino County, California. The bridge is bounded by Lone Pine Canyon and the Union Pacific Railroad to the north and Cajon Boulevard (historic U.S. Highway 66) to the south.

The bridge lies within the SE $\frac{1}{4}$ of the SW $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 12, Township 2 North, Range 6 West, on the 1956 Cajon, California, 7.5-minute U.S. Geological Survey quadrangle (photorevised 1988). Universal Transverse Mercator Coordinates: Zone 11, NAD83, Geodetic Reference System 1980 ellipsoid, 3791935 mN, 457626 mE (west abutment); 3791936 mN, 457629 mE (east abutment).

Date of Construction: 1913

Architect/Engineer: unknown

Builder: Atchison, Topeka and Santa Fe Railway (AT&SF)

Present Owner: BNSF

Present Use: Bridge on Main Tracks 1 and 2.

Significance: The section of railroad through Cajon Pass provided a vital link between the greater Los Angeles area and distant markets. In 1998, the California State Historic Preservation Office determined the historic route of the AT&SF (now BNSF) railroad alignment through Cajon Pass to be eligible for listing in the National Register of Historic Places under Criteria a and c. By connecting Los Angeles and San Bernardino to markets throughout the United States, the railroad dramatically affected demographic, commercial, and cultural trends in Southern California. Furthermore, construction of the long, winding alignment through rugged and often steep terrain represents a significant engineering feat for its time. Structure No. 64.9 contributes to the function and significance of the railroad line by affording a passage for rail traffic over a drainage channel.

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Date: March 2008

Architectural and Engineering Information

Structure No. 64.9 is a T-rail-on-concrete bridge that carries Main Tracks 1 and 2 over a minor drainage near the Blue Cut area of Cajon Pass (Figure 1). Constructed in 1913, the bridge has a length of 10'-0" and an approximate width of 30'. The distance from the bottom of the span to the channel surface is about 4' on the downstream (south) side. This structure is a T-rail-on-concrete bridge with eighteen T-rails for each track. In this type of construction, a running rail (the rail part of the railroad track) is used as a supporting girder. The running rails, which weigh 85 pounds per yard, are placed contiguously to provide support for the bridge span (Bridge List, First District, Los Angeles Division, p. 48, Structures Department, BNSF Railway Company, Kansas City, Kansas).

Two reinforced-concrete abutments comprise the substructure. The distance between the east and west abutments is 7'-6". An angled wing wall adjoins the south side of the west abutment. This wing acts as a retaining wall to hold back the roadbed fill. On the upstream (north) side of the bridge, a large cast-iron pipe with a diameter of 7" lies parallel to the bridge and level with the bottom of the deck.

Resting lengthwise on top of each abutment is a 6" x 10" treated timber beam that supports the span's structural elements. Two 6" x 16" x 14'-0" timber beams, one on each side of the span, are secured to the tops of the abutment beams and set parallel to the track. Set inside these timber beams are thirty-six 10'-0"-long T-rails. The T-rails have a web height of 4" and a flange width of 3". Anchored to the tops of the rails are 3" x 10" lengths of treated timber that form the bridge deck. The timber deck supports the ballast, ties, and rails. Ballast curbs, for holding the roadbed ballast in place, run along the outer edges of the span. The ballast curb on the upstream side measures 16" x 16" x 14'-6"; the other measures 8" x 16" x 14'-6".

Adjoining the bridge on the upstream (north) side is a reinforced-concrete spillway for channeling water downhill and under the bridge. The U-shaped spillway extends 65'-6" in a generally southwest direction. The structure is 7'-6" wide with side walls 2'-0" high and 10" thick. Although the concrete walls of the spillway join the bridge abutments, the structures were likely constructed at different times.

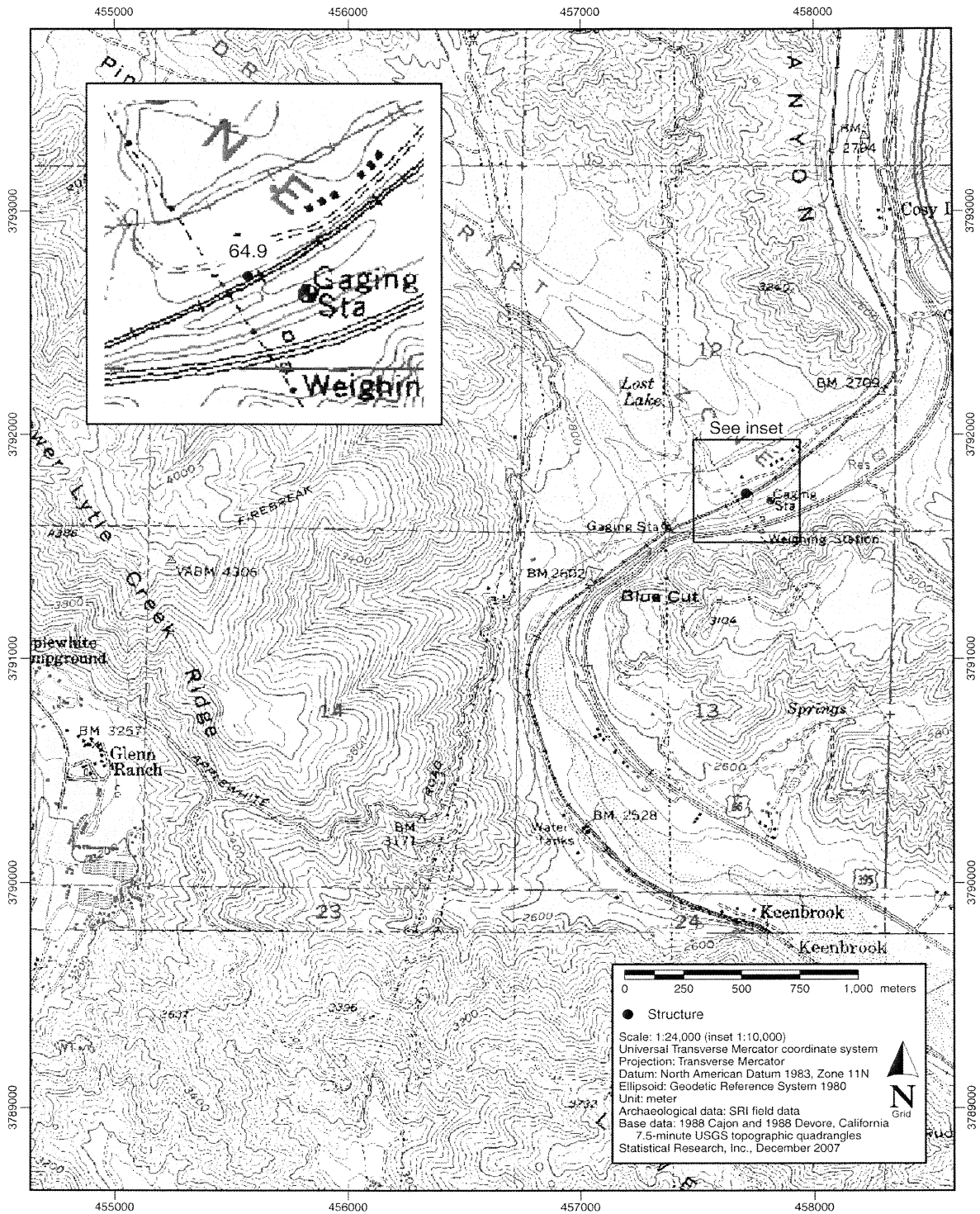


Figure 1. Project location (1956 Cajon, California, 7.5-minute U.S. Geological Survey quadrangle [photorevised 1988]).

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David G. De Vries, photographer

June 2007

CA-2259-M-1 OVERALL CONTEXT VIEW, TO THE SOUTHWEST OVER MAIN TRACKS 1
AND 2. [96]

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