BURLINGTON NORTHERN SANTA FE RAILROAD,
CAJON SUBDIVISION , STRUCTURE NO. 66.4
Between Cajon Summit and Keenbrook
Devore vicinity
San Bernardino County
California

HAER CA-2259-R
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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. 66.4

HAER
CA-2259-R

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Location:	BNSF Railway Company (BNSF) Railroad Structure No. 66.4, a single-span I-beam bridge, is located at milepost 66.4 on Main Tracks 1 and 2, Devore vicinity, San Bernardino County, California. The bridge crosses a drainage tributary of Cajon Creek and is bounded by the Union Pacific Railroad to the east and Cajon Boulevard (historic U.S. Highway 66) to the south. The bridge lies within the SW ¼ of the SE ¼ of the SW ¼ of Section 13, 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, 3790255 mN, 457136 mE (east approach); 3790259 mN, 457131 mE (west approach).
Date of Construction:	1899, 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. 66.4 contributes to the function and significance of the railroad line by carrying rail traffic across a substantial drainage channel.
Report Prepared by:	Scott Thompson, Senior Historian John Goodman, Archaeologist Statistical Research, Inc. Tucson, Arizona
Date:	March 2008

Architectural and Engineering Information

Structure No. 66.4 is a single-span I-beam bridge that carries Main Tracks 1 and 2 over a relatively substantial drainage associated with Lower Lytle Creek Ridge to the west. The bridge is located at Milepost 66.36, northwest of the former Keenbrook Station (Figure 1). With a 22'-0" span, the total length of the bridge is approximately 23'. The distance from the bottom of the deck to the channel bed is approximately 11'.

As originally constructed in 1899, the bridge supported a single track located on the downstream (north) side of the structure. In 1913, the Atchison, Topeka and Santa Fe Railway widened the bridge to the south with the addition of two tracks—one to carry eastbound traffic up the easier 2.2-percent grade and another as an eastbound passing track (Bridge List, First District, Los Angeles Division, p. 49, Structures Department, BNSF Railway Company, Kansas City, Kansas). The passing track on the upstream (south) side was removed some time after 1984; a dirt maintenance road is in its place.

A reinforced-concrete substructure consisting of two (east and west) abutments bears the concentrated vertical load of the bridge. A ledge, or step, near the top of each abutment supports the ends of the I-beams that compose the span. The 48'-0"-long abutments have flared and downward-sloping wing walls on their respective upstream (south) and downstream (north) sides. The southwest wing has a length of 23'-0" and a maximum height of 8'-6". To retain the roadbed fill and ballast, the elevated grade adjacent to the southwest wing wall is covered by an angled, concrete retaining wall. This retaining wall is attached to the top edge of the wing wall.

The 22'-0" span incorporates 18 I-beam girders in three sets of six, or six girders for each of the three tracks: eastbound (now Main Track 1), westbound (now Main Track 2), and passing (maintenance road). The I-beams have a web height of 24" and a flange width of 7". To provide lateral support, two L-iron bars are attached diagonally to the bottom flanges of each set of six I-beams. Fastened atop and lying perpendicular to the girders are 6" x 8" lengths of treated timber that form the bridge deck. The timber deck supports the ballast, ties, and rails. A ballast curb constructed of treated lumber runs along the outer edge of the span on the downstream (north) side. Guardrails on both sides of the bridge consist of 2" x 6" timber rails on 6" x 8" timber posts. The height of each guardrail from the bridge deck to the top rail is 2'-8".

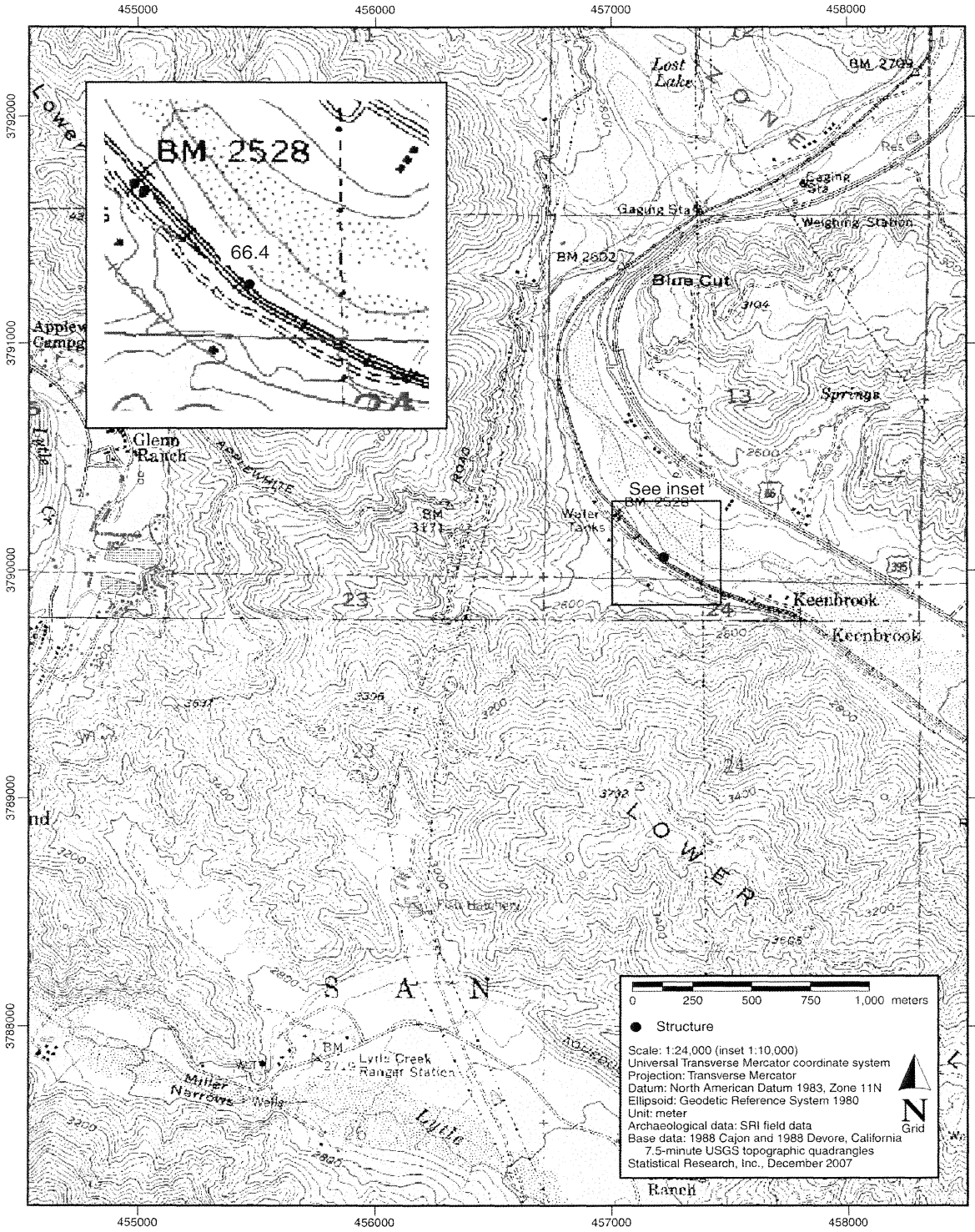

Figure 1. Project location (1956 Cajon, California, 7.5-minute U.S. Geological Survey quadrangle [photorevised 1988]).

HISTORIC AMERICAN ENGINEERING RECORD

INDEX TO PHOTOGRAPHS

Burlington Northern Santa Fe Railroad, Cajon Subdivision, HAER No. CA-2259-R
Structure No. 66.4
Between Cajon Summit and Keenbrook
Devore vicinity
San Bernardino County
California

David G. De Vries, photographer June 2007

CA-2259-R-1 CONTEXT VIEW, TO THE EAST. INTERSTATE 15 IS VISIBLE ON THE HILLSIDE IN THE LEFT BACKGROUND. [70]

CA-2259-R-2 SOUTH ELEVATION. [66]

CA-2259-R-3 NORTH ELEVATION. [67]

CA-2259-R-4 DETAIL OF UNDERSIDE OF BRIDGE SHOWING I-BEAMS, WOODEN CROSS BEAMS, AND PART OF WING WALL. [68]

CA-2259-R-5 ANOTHER DETAIL OF THE BRIDGE UNDERSIDE, I-BEAM AND WOODEN CROSS BEAM CONSTRUCTION. [69]

CA-2259-R-6 WEST APPROACH. [64]

CA-2259-R-7 EAST APPROACH. [65]


Kodak 400TMY
HAER No. CA-72 59-R-1


Kodak 400TMY
HAER No. CA-2259-R-2


Kodak 400TMY
HAER NO. CT-2259-R-3


274
68
Kodak 400TMY
HAER No. CA-2259-R-4


Kodak 400TMY
HAER NO. CA-2259-R-5


Kodak 400TMY
HAER No. CA-2259-R-6


Kodak 400TMY
HAER No. CA-2259-R-1