BURLINGTON NORTHERN SANTA FE RAILROAD,
CAJON SUBDIVISION , LIMEKILN
Between Cajon Summit and Keenbrook
Devore vicinity
San Bernardino County
California

HAER CA-2259-V
CA-2259-V

HAER
CA-2259-V

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

HAER
CA-2259-V

Burlington Northern Santa Fe Railroad, Cajon Subdivision,
Limekiln

HAER No. CA-2259-V

Location:	The limekiln is bounded by the Union Pacific Railroad to the west and by BNSF Railway Company (BNSF) Railroad Main Tracks 1 and 2 to the east. The limekiln lies within the NE ¼ of the NE ¼ of the NW ¼ of Section 24, 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, 3790096 mN, 457302 mE.
Date of Construction:	unknown
Architect/Engineer:	unknown
Builder:	unknown
Present Owner:	USDA Forest Service
Present Use:	The limekiln is abandoned.
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 Atchison, Topeka and Santa Fe Railway (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. The limekiln was likely associated with the construction of the railroad; thus, it contributes to the railroad's significance.
Report Prepared by:	Scott Thompson, Senior Historian John Goodman, Archaeologist Statistical Research, Inc. Tucson, Arizona
Date:	March 2008

I. ARCHITECTURAL AND ENGINEERING INFORMATION

This structure is a mortared- and dry-laid-stone limekiln set above the base of a hillside northwest of the now-abandoned Keenbrook Station (Figure 1). A limekiln is an insulated chamber where calcium carbonate—usually limestone, but possibly chalk, marble, or sea shells—is heated to produce quicklime (calcium oxide), a key ingredient in the manufacture of mortar, cement, and plaster for building construction. This stone-walled vertical limekiln has an opening at the base and another at the top. Quarried limestone pieces were dumped into the top opening with alternating layers of fuel (probably wood or coal) then fired for several days. The quicklime settled at the bottom of the limekiln and was extracted through the bottom opening, or draw hole (Wingate 1985:5–7, 43, 46).

This area of the hillside appears to have been terraced flat to serve as a platform for the limekiln before it was constructed. A dry-laid-stone wall with an approximate length of 32' and a height of about 3' was built as a terrace retaining wall. This wall is five courses high. A second dry-laid-stone retaining wall with a length of about 18' and a height of 3'-6" was constructed off the northeast wall of the limekiln. The limekiln is rectangular in plan, with a mortared-stone base, dry-laid-stone upper walls, and a mortared-stone chimney. The cylindrical chimney served as an opening for loading the limekiln with raw materials and fuel, and allowed gases and smoke to escape during the burning process. The main structure measures about 15' x 14' in area and is approximately 12' high. The chimney has an outside diameter of 10'-6", an interior diameter of 5'-8", and a height of 3'-0". From its base to the top of the chimney, the limekiln is generally eighteen courses high. On the north (front) facade there is an arched draw hole at the center. The draw hole measures 3'-4" x 3'-4" and extends inside of the limekiln for a distance of about 4'. An apron of burned and unburned limestone fragments, charcoal, and ash extends northward from the draw hole for a distance of approximately 12'.

Although the age of the limekiln is unknown, it may have been used in the construction of the bridges and culverts along the original 1885 railroad line. (*Note:* It is unlikely that the limekiln was used for railroad construction activities following the flooding episodes of the early twentieth century. By that time, Portland cement, a much stronger, artificial cement, had replaced lime-based cements for building concrete structures.)

II. REFERENCES CITED

Wingate, Michael
1985 *Small-Scale Lime-Burning: A Practical Introduction.* Intermediate Technology, London.

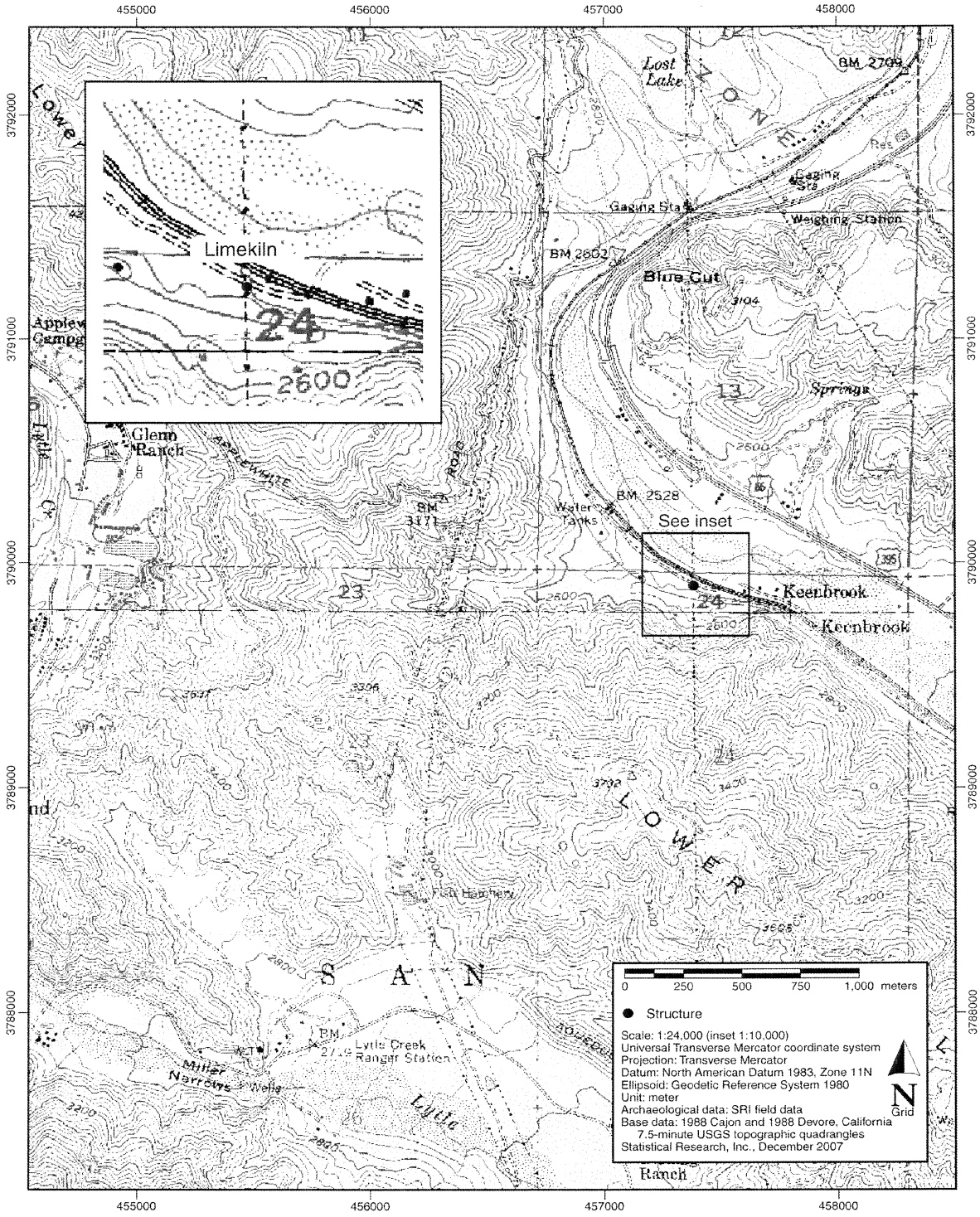

Figure 1. Project location (1966 Devore, California, 7.5-minute U.S. Geological Survey quadrangle [photorevised 1988]).

HISTORIC AMERICAN ENGINEERING RECORD

INDEX TO PHOTOGRAPHS

Burlington Northern Santa Fe Railroad, Cajon Subdivision, Limekiln
Between Cajon Summit and Keenbrook
San Bernardino National Forest
Devore vicinity
San Bernardino County
California

HAER No. CA-2259-V

David G. De Vries, photographer

June 2007

CA-2259-V-1 CONTEXT VIEW, TO THE WEST, FROM MAIN TRACKS 1 AND 2. [61]

CA-2259-V-2 NORTH ELEVATION. [62]

CA-2259-V-3 DETAIL OF MORTAR-LAID STONE AT THE BASE OF THE LIMEKILN AND AROUND THE ARCH OPENING AND DRY-LAID STONE ABOVE. STRONG OBLIQUE TO THE WEST. [63]


Kodak 400TMY
HAER NO. CA-2259-V-1

HAER NO. CA-2254-V-2

HAEL No. CA. 2259- V-3

Kodak 400TMY