(Oct. 1990)

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM

1. NAME OF PROPERTY

HISTORIC NAME: ATSF Locomotive No. 2926

OTHER NAME/SITE NUMBER: N/A

2. LOCATION

STREET & NUMBER: 1600 Twelfth Street NW (United States General Services Administration)
NOT FOR PUBLICATION: N/A
CITY OR TOWN: Albuquerque **VICINITY:** N/A
STATE: New Mexico **CODE:** NM **COUNTY:** Bernalillo **CODE:** 01 **ZIP CODE:** 87125

3. STATE/FEDERAL AGENCY CERTIFICATION

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this _x_nomination ___request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property _x_meets ____does not meet the National Register criteria. I recommend that this property be considered significant ___nationally X__statewide/ _locally. (___See continuation sheet for additional comments.)

Katherine Slick — 7 June 2007
Signature of certifying official — Date

State Historic Preservation Officer

State or Federal agency and bureau

In my opinion, the property X meets ___does not meet the National Register criteria.
(___See continuation sheet for additional comments.)

Orlando Lucero-Camp — 26 July 2007
Signature of commenting or other official — Date

GENERAL SERVICES ADMINISTRATION
State or Federal agency and bureau

4. NATIONAL PARK SERVICE CERTIFICATION

I hereby certify that this property is:

	Signature of the Keeper	Date of Action
✓ entered in the National Register ___ See continuation sheet.	Jonda McClellard	10/1/07
____ determined eligible for the National Register ___ See continuation sheet.		
____ determined not eligible for the National Register		
____ removed from the National Register		
____ other (explain): _____		

5. CLASSIFICATION

OWNERSHIP OF PROPERTY: Private (locomotive); Public-Federal (land on which locomotive and rail sit)

CATEGORY OF PROPERTY: Structure

NUMBER OF RESOURCES WITHIN PROPERTY:	**CONTRIBUTING**	**NONCONTRIBUTING**
	0	0 **BUILDINGS**
	0	0 **SITES**
	1	0 **STRUCTURES**
	0	0 **OBJECTS**
	1	0 **TOTAL**

NUMBER OF CONTRIBUTING RESOURCES PREVIOUSLY LISTED IN THE NATIONAL REGISTER: 0

NAME OF RELATED MULTIPLE PROPERTY LISTING: N/A

6. FUNCTION OR USE

HISTORIC FUNCTIONS: TRANSPORTATION: rail-related (locomotive)

CURRENT FUNCTIONS: TRANSPORTATION: rail-related (locomotive)

7. DESCRIPTION

ARCHITECTURAL CLASSIFICATION: N/A

MATERIALS:

FOUNDATION N/A
WALLS N/A
ROOF N/A
OTHER Steel

NARRATIVE DESCRIPTION (see continuation sheets 7-5 through 7-9).

8. STATEMENT OF SIGNIFICANCE

APPLICABLE NATIONAL REGISTER CRITERIA

__ **A** PROPERTY IS ASSOCIATED WITH EVENTS THAT HAVE MADE A SIGNIFICANT CONTRIBUTION TO THE BROAD PATTERNS OF OUR HISTORY.
___ **B** PROPERTY IS ASSOCIATED WITH THE LIVES OF PERSONS SIGNIFICANT IN OUR PAST.
_X_ **C** PROPERTY EMBODIES THE DISTINCTIVE CHARACTERISTICS OF A TYPE, PERIOD, OR METHOD OF CONSTRUCTION OR REPRESENTS THE WORK OF A MASTER, OR POSSESSES HIGH ARTISTIC VALUE, OR REPRESENTS A SIGNIFICANT AND DISTINGUISHABLE ENTITY WHOSE COMPONENTS LACK INDIVIDUAL DISTINCTION.
___ **D** PROPERTY HAS YIELDED, OR IS LIKELY TO YIELD, INFORMATION IMPORTANT IN PREHISTORY OR HISTORY.

CRITERIA CONSIDERATIONS: N/A

AREAS OF SIGNIFICANCE: Engineering

PERIOD OF SIGNIFICANCE: 1944-1953

SIGNIFICANT DATES: 1944

SIGNIFICANT PERSON: N/A

CULTURAL AFFILIATION: N/A

ARCHITECT/BUILDER: Baldwin Locomotive Works, builder.

NARRATIVE STATEMENT OF SIGNIFICANCE (see continuation sheets 8-10 through 8-13).

9. MAJOR BIBLIOGRAPHIC REFERENCES

BIBLIOGRAPHY (see continuation sheet 9-14).

PREVIOUS DOCUMENTATION ON FILE (NPS): N/A
_ preliminary determination of individual listing (36 CFR 67) has been requested.
_ previously listed in the National Register
_ previously determined eligible by the National Register
_ designated a National Historic Landmark
_ recorded by Historic American Buildings Survey #
_ recorded by Historic American Engineering Record #

PRIMARY LOCATION OF ADDITIONAL DATA:
x State historic preservation office *(Historic Preservation Division, Office of Cultural Affairs)*
_ Other state agency
_ Federal agency
_ Local government
_ University
x Other -- Specify Repository: New Mexico Steam Locomotive and Railroad Historical Society

10. GEOGRAPHICAL DATA

ACREAGE OF PROPERTY: less than one acre

UTM REFERENCES	Zone	Easting	Northing
1.	13	349244	3885527

VERBAL BOUNDARY DESCRIPTION A small tract of land owned by the United States General Services Administration, containing a railroad siding and a concrete platform housing the nominated property: Tract 78C MRGCD MAP 36, Albuquerque, Bernalillo County, New Mexico. The UTM coordinates for the boundary are: 13 349244E, 3885527N.

BOUNDARY JUSTIFICATION The nominated boundary includes only the nominated resource and immediate track in which it rests.

11. FORM PREPARED BY

NAME/TITLE: Bob Scott, Vice President

ORGANIZATION: New Mexico Steam Locomotive and Railroad Historical Society

DATE: October 2006

STREET & NUMBER: 1833 8th Street NW **TELEPHONE:** 505-332-2926

CITY OR TOWN: Albuquerque **STATE:** NM **ZIP CODE:** 87125

ADDITIONAL DOCUMENTATION

CONTINUATION SHEETS

MAPS (see attached *Albuquerque West* topographic quadrangle map)

PHOTOGRAPHS (see continuation sheet Photo-15)

ADDITIONAL ITEMS N/A

PROPERTY OWNER

NAME: New Mexico Steam Locomotive and Railroad Historical Society (locomotive)
STREET & NUMBER: 1833 8th Street NW **TELEPHONE:** 505-332-2926
CITY OR TOWN: Albuquerque **STATE:** NM **ZIP CODE:** 87125

NAME: General Services Administration (GSA), Region 7 (land)
STREET & NUMBER: 819 Taylor St. (7PD) **TELEPHONE:** 817-574-243
CITY OR TOWN: Fort Worth **STATE:** TX **ZIP CODE:** 76102

Description

Atchison, Topeka and Santa Fe (ATSF) steam locomotive No. 2926 is one of 65 dual purpose (passenger and freight) engines built by the Baldwin Locomotive Works between 1927 and 1944. These engines are designed with a 4-8-4 wheel arrangement, generally referred to as the "Northern" arrangement, with four wheels at the front to guide the engine into turns and support the front of the boiler. These wheels are followed by eight large drivers which provide the motive power and support most of the boiler weight, and four wheels at the rear to support the cab and firebox. The locomotive is the youngest surviving engine of the 65 4-8-4's built for the ATSF. Locomotive No. 2926 is currently being restored by the New Mexico Steam Locomotive and Railroad Historical Society, and retains a good deal of its integrity of design and materials. The locomotive does not need to meet Criterion Consideration B, as it still rests on tracks that connect with the former BNSF mainline.[1]

Elaboration

Atchison, Topeka and Santa Fe (ATSF) steam locomotive No. 2926 is one of 65 dual purpose (passenger and freight) engines built by the Baldwin Locomotive Works between 1927 and 1944. These engines have a 4-8-4 wheel arrangement, generally referred to as the "Northern" arrangement, with four wheels at the front (pony truck) to guide the engine into turns and support the front of the boiler, followed by eight large drivers which provide the motive power and support most of the boiler weight, and four wheels at the rear (trailing truck) to support the cab and firebox. This arrangement is illustrated in the line drawing of the engine and tender (Figure 7-2). The ATSF 4-8-4 locomotives were built in four classes, as follows:

3751 Class, 14 locomotives (Numbers 3751-3764) delivered between 1927 and 1929
3765 Class, 11 locomotives (Numbers 3765-3775) delivered in 1938
3776 Class, 10 locomotives (Numbers 3776-3785) delivered in 1941
2900 Class, 30 locomotives (Numbers 2900-2929) delivered in 1943 and 1944[2]

The 3751 was designed as a replacement for the ATSF 3700 class 2-8-4 "Mountain" type locomotives that represented the state of the art in the 1920s, and demonstrated far superior performance. Coal consumption per mile was decreased 39 percent and pounds of coal per pound of water were decreased 43 percent, showing a remarkable improvement in efficiency in producing steam.[3] Further improvements were achieved with each succeeding class, culminating in the 2900s.

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[1] The-right-of way is now owned by the State of New Mexico and is shared by BNSF, AMTRAK and the RailRunner, a commuter train.

[2] L. Wescott, editor, *Model Railroader Cyclopedia – Volume 1, Steam Locomotives* (Kalmbach Publishing Company, Waukesha, WI, 1966: 224; Lloyd E. Stagner, "Thirty Years of 4-8-4's" *Trains*. February 1987:25-33.

[3] S. Kip Farrington Jr., *The Santa Fe's Big Three*. New York: David McKay Co., Inc., 1972: 147-150.

As built, the 3751 Class burned coal and had a tender capacity of 15,000 gallons of water and 20 tons of coal. In 1936, they were converted to oil, and tender capacities were upgraded to 20,000 gallons of water and 5,071 gallons of fuel oil. The oil capacity was further upgraded to 7,101 gallons in 1938. The 3751's boilers were upgraded to 300 PSI and the drivers were increased to 80 inch diameter in 1941.These changes permitted a change in maximum operating speed from 65 to 90 MPH.[4]

The heavier weight of the 2900 Class resulted from the unavailability of high strength lightweight alloys for the boilers and running gear during World War II. The heavier weight of the running gear required additional counterbalancing of the drivers, increasing the total weight by nearly 12,000 pounds. After the war, the heavier running gear was replaced by lighter gear and roller bearings were installed, greatly reducing lubrication requirements and extending operating distance between maintenance stops.

The 2900 Class routinely operated from La Junta, Colorado to Los Angeles or Kansas City without an engine change. This involved a distance of 1,791 miles, the longest steam haul in the world at the time.[5] The 2900 Class routinely operated at over 80 MPH, and was rated at 100 MPH. The highest reported speed of a 2900 Class locomotive was 110 MPH, hauling a troop train during World War II.

The drawbar horsepower of the 2900 Class varied with speed. Maximum horsepower was developed between 35-65 MPH. Tests on No. 2919 indicated drawbar horsepower (developed at the coupler of the tender and thus available to pull the train) as 4590 at 40 MPH

All of the later ATSF 4-8-4 locomotives incorporated "Super Power" features first introduced by Lima Locomotive Works in 1925 and later adopted by Baldwin. Super Power emphasized power at speed rather than starting tractive effort (low speed pulling power). High horsepower was provided by increasing the ability of the boiler to generate greater amounts of steam while maintaining economic fuel and water consumption rates. This required a very large firebox, leading to the need for four-wheel trailing trucks.

Other features of Super Power included feedwater heaters to warm water entering the boiler with exhaust steam, larger driving wheels to reduce counterbalancing requirements and dynamic augment permitting faster operation and lighter, higher strength alloys permitting higher boiler pressures and lighter running gear.

Other significant features incorporated in the later Classes of 4-8-4s (many backfitted into earlier locomotives) included the following:

1. Roller bearings on all axles and running gear
2. Nicholson thermic syphons (later replaced by duplex siphons)

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[4] Lloyd E. Stagner, "Thirty Years of 4-8-4's" *Trains*. February 1987:27.
[5] James, Marshall, *Santa Fe, the Railroad that Built an Empire*. New York: Random House, 1945: 341.

3. Wagner cylinder bypass valves for lubrication while drifting downgrade
4. Three mechanical lubricators to distribute oil to bearing surfaces
5. ATSF patented Layton exhaust nozzles to separate exhaust blast from the cylinders
6. High efficiency Worthington 6-SA feedwater heaters
7. One piece cast frame and cylinders
8. American multiple throttle
9. Weston speed recorder
10. Foam meter
11. Drum type fuel heater
12. Throat sheet blow off cock[6]

The 2900 Class incorporated these and other improvements over the initial Super Power locomotives and are regarded by many rail historians as the pinnacle of steam locomotive technology. They provided an optimum balance between power, speed, operating performance and efficiency in terms of fuel and water consumption.

Integrity

Retired in 1953, after logging 1,090,539 miles, ATSF 2926 was donated to the City of Albuquerque in conjunction with the City's 250th anniversary celebration and placed in Coronado Park. It rested there for 44 years, suffering the usual deterioration and vandalism common with locomotives stored in an unprotected location. The New Mexico Steam Locomotive and Railroad Historical Society (NMSLRHS), founded in 1997 with the goal of restoring the 2926 to operating condition, is currently restoring the locomotive. As a whole, ATSF Locomotive No. 2926 retains a high degree of integrity as to its original design and materials.

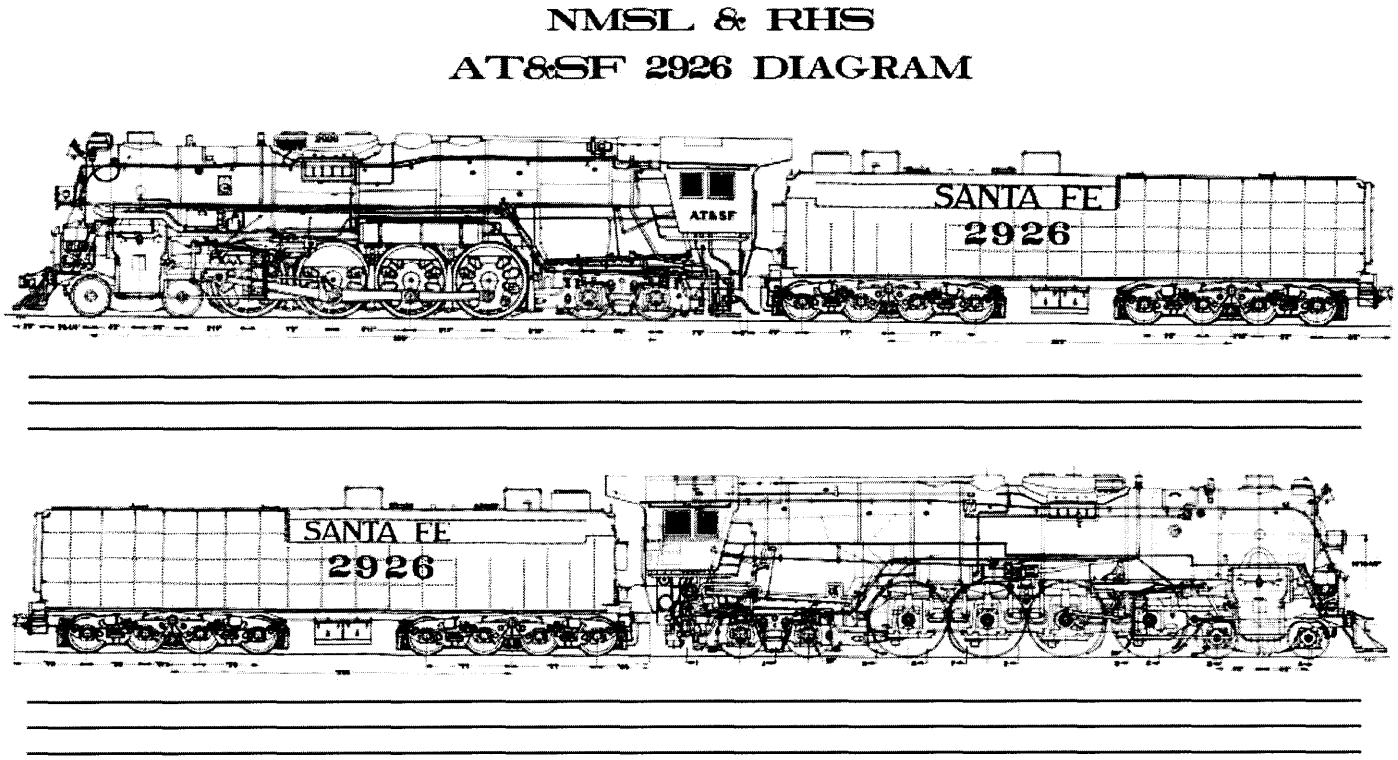
[6] Brian Soloman, *The Heritage of North American Steam Locomotives*. Pleasantville, NY, 2001: 164; S. Kip Farrington Jr., *The Santa Fe's Big Three*. New York: David McKay Co., Inc., 1972: 153.

Figure 7-1: General Specifications [7]

General Specifications	Class 3751	Class 3765	Class 3776	Class 2900
Length	108'-7"	112'-1"	121'-7"	120'-10"
Driver Diameter,	73"	80"	80"	80"
Weight on Drivers, Lbs.	276, 700	286,890	281,900	294,000
Total Locomotive Weight, Lbs.	478,100	499,600	494,630	510,700
Locomotive & Tender weight, Lbs.	874,346	895,940	960,630	961,000
Firebox Grate Area, square ft.	108	108	108	108
Cylinders, diameter & strike	30 x 30	28 x 32	28 x 32	28 x 32
Boiler Pressure, PSI	210	300	300	300
Tractive Effort, Lbs.	66,000	79,968	79,968	79,968
Tender Water Capacity, Gal.	15,000	21,000	24,500	24,500
Tender Oil Capacity, Gal.	7,101	7,000	7,000	7,000

[7] Ibid.: 26; Stephen Bradshaw, "How Powerful is Your Machine?" *New Mexico Steam Locomotive and Railroad Historical Society Newsletter*, Vol. V, Issue 2, April-June, 2006: 3-4.

Figure 7-2: Diagram of Locomotive No. 2926



Significance

ATSF Locomotive No. 2926 is one of six surviving members of the 30 2900 Class 4-8-4's and the only one in a condition to be restorable to operating condition. Representing ATSF's last push to achieve steam engine Super Power, Locomotive No. 2926 is eligible for listing in the National Register of Historic Places under Criterion C in the area of Engineering at the state level of significance.

Historical Context

Delivered May 1944, ATSF Locomotive No. 2926 initially powered troop trains and fast freights to support the war effort. As part of the Missouri and Pecos Divisions, 2926 hauled freight trains between Kansas City, Clovis, New Mexico, Argentine, Kansas, Wellington, Kansas and La Junta, Colorado. During 1944, the nation's railroads carried 300 percent more freight than in 1929 with 600,000 fewer cars and 16,000 fewer locomotives

This was due in part to the outstanding efficiency and power of locomotives such as 2926, which could pull a 5,500-ton freight train at 60 MPH without helpers except at very steep grades such as New Mexico's Raton, Cajon and Abo passes. As an example of their efficiency, the 2900s averaged 9,056 miles between engine changeouts in 1944 and cost 15.1 cents per mile to maintain, compared to 28 cents for the 3751s.[8]

These trains operated through New Mexico on the ATSF northern branch from Kansas City through La Junta, which then went north-south from Raton Pass through Albuquerque reconnecting to the northern branch at Dalies, New Mexico and continuing west through Arizona and California to Barstow and Los Angeles.

In September 1945, the 2926 was transferred to the Los Angeles Division and put into passenger service, primarily between Los Angeles and Kansas City powering the Chief and other first class trains. She continued in this service until June 1949. During that period she sat in a shop for maintenance and repairs 11 times, primarily in the Los Angeles shops.

In June 1949, the 2926 was transferred to the Eastern Division providing freight service between Argentine, Wellington and Clovis as well as giving helper service as diesels replaced steam in the 1950s. Locomotive No. 2926 was retired from service on December 24, 1953.[9] At that time, she had accumulated 133,406 miles of service since her last Class repairs in May 1953 at the Albuquerque shops. The ATSF donated the locomotive to the City of Albuquerque, which moved it to Coronado Park.

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[8] Lloyd E. Stagner, "Thirty Years of 4-8-4's" *Trains*. February 1987: 33.
[9] Lloyd E. Stagner, *Santa Fe Steam: The Last Decade, 1949-1959*. David City, Neb.: South Platte Press, 1995: 28.

Restoration Efforts and Current Configuration

The New Mexico Steam Locomotive and Railroad Historical Society (NMSLRHS), founded in 1997 as a 501(C)(3) non-profit organization, is currently restoring the 2926 to operating condition. The Society purchased the 2926 locomotive and tender as well as a caboose from the City of Albuquerque for one dollar in 1999.[10] The locomotive and tender were moved from Coronado Park to a siding in June 2000 and to the Society's restoration site in Albuquerque in 2002. The goal of the society is to restore the locomotive and tender to the configuration that existed when they were retired in 1953. It is intended to operate the 2926 in excursion service on tracks owned by the State of New Mexico between Belen and Raton, shared with the BNSF Railroad, AMTRAK and the state-owned RailRunner commuter system.

Significance under Criterion C

As discussed in Section 7, Locomotive No. 2926 is built upon the technology of Super Power as it existed in the early 1940s, producing a locomotive that optimized the requirements for both high speed passenger and freight service with optimum operating efficiency, including low fuel and water consumption per horsepower, maximum operating range without exchanging locomotives[11] and emerged as a major contributor to efforts during WW II to move troops and war supplies from manufacturers to seaports. The ATSF Locomotive No. 2926, is the youngest and most technologically advanced of the surviving 4-8-4s and the only engine of the 2900 Class that is restorable to original operating condition.[12] For these reasons, the ATSF Locomotive No. 2926 is eligible for the National Register of Historic Places at a state level of significance.

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[10] As the locomotive is designated an Albuquerque City landmark, it remains subject to the city's Landmarks Ordinance, under the jurisdiction of the Landmarks and Urban Conservation Commission. The Society retains title, ownership, possession, care and custody of the locomotive, tender and caboose and reports annually to the commission on progress in the restoration effort.

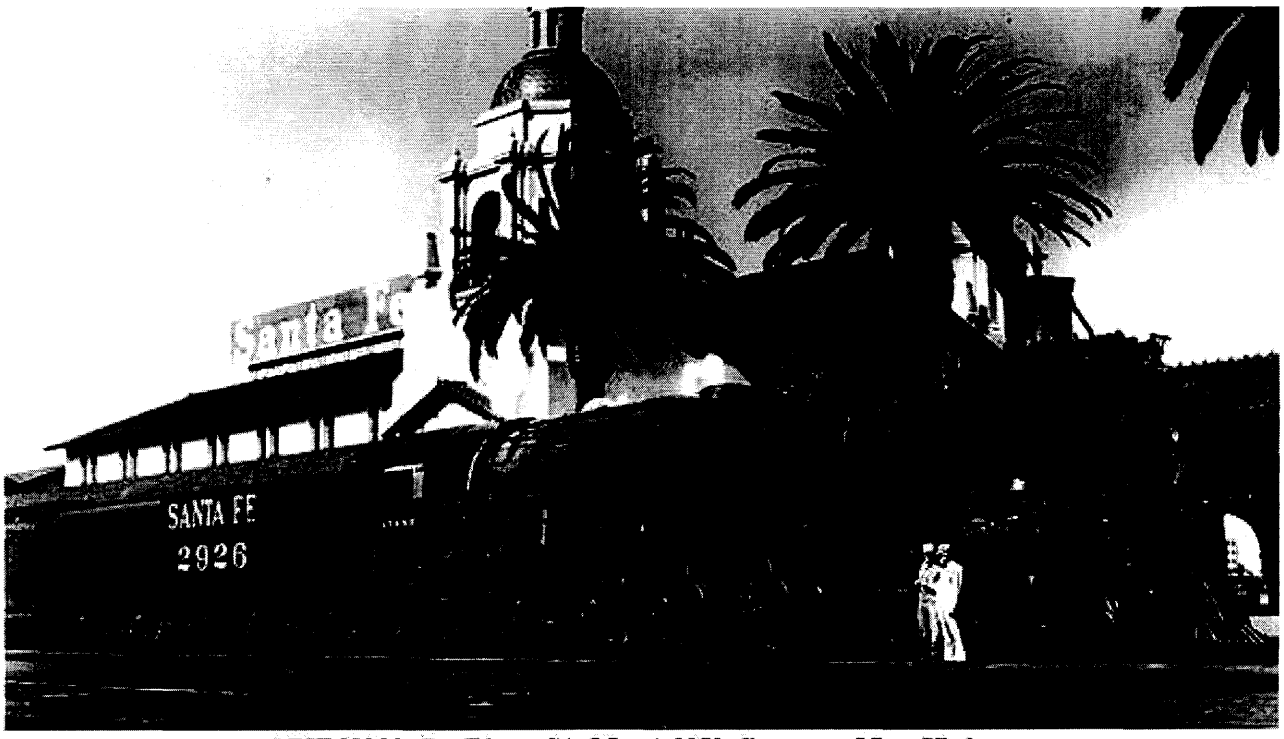
[11] The 1,791 miles covered in its Kansas City-Los Angeles passenger route was the longest route in the world during this period.

[12] Three other ASTF 4-8-4s survive: 3751 is restored to operating condition by the San Bernardino Railway Historical Society and is stored in the Los Angeles AMTRAK Redondo Junction facility; 3759 is on static display in the city park, Kingman Arizona; and 3768 is on static display at the Great Plains Transportation Museum, Wichita, Kansas; "Surviving Steam Locomotives in the USA," http//www.steamlocomotives.com/list, last updated October 31, 2006.

Figure 8-1: Table of Existing 2900 Class 4-8-4's

Number	Location	Status
2903	Illinois Railway Museum, Union, Illinois	Interior display
2912	Pueblo, Colorado	Dismantled
2913	Fort Madison, Iowa	Exterior display
2921	Modesto, California	Exterior display
2925	California RR Museum in Sacramento, California	Exterior display
2926	New Mexico Steam Locomotive and Railroad Historical Society, Albuquerque, New Mexico	Undergoing cosmetic restoration

Figure 8-2: Locomotive No. 2926, May 4, 1952 (courtesy Stan Kistler)



ATSF 2926 in San Diego, CA May 4, 1952 Courtesy of Stan Kistler

Bibliographic References

Bradshaw, Stephen. "How Powerful is Your Machine?" *New Mexico Steam Locomotive and Railroad Historical Society Newsletter*, Vol. V, Issue 2, April-June, 2006: 3-4.

Brascher, Larry E. *Santa Fe Locomotive Development, the Journey to Supreme Steam and Pioneer Diesels.* Wilton, Cal.: Signature Press, 2006.

Farrington, S. Kip, Jr. *The Santa Fe's Big Three. New York*: David McKay Co., Inc., 1972.

Marshal, James. *Santa Fe, the Railroad that Built an Empire.* New York: Random House, 1945.

Soloman, Brian. *The Heritage of North American Steam Locomotives.* Pleasantville, NY, 2001.

Stagner, Lloyd E. "Thirty Years of 4-8-4's" *Trains.* February 1987: 24-40.

Stagner, Lloyd E. *Santa Fe Steam: The Last Decade, 1949-1959.* David City, Neb.: South Platte Press, 1995.

Westcott, Lynn S., editor. *Model Railroader Cyclopedia, Volume 1: Steam Locomotives.* Waukesha, Wisc. Kalmbach Publishing Company, 1960.

Photographs

The following information pertains to all photographs unless otherwise noted:

ATSF Locomotive No. 2926
Albuquerque, Bernalillo County, New Mexico
Photographer: Bob Scott
Date: February 2006
Location of Negatives: New Mexico State Historic Preservation Office

Photo 1 of 4
Locomotive (front)
Facing East

Photo 2 of 4
Locomotive (rear)
Facing West

Photo 3 of 4
Locomotive (side)
Facing South

Photo 4 of 4
Cab (pre-restoration)
Facing West