

Name of Property _____

County and State _____

5. Classification

Ownership of Property
(check as many as apply)

- private
- public-local
- public-State
- public-Federal

Category of Property
(check as many as apply)

- building(s)
- district
- site
- structure
- object

Number of Resources within Property
(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
_____	_____	building(s)
_____	_____	site
1	_____	structure
_____	_____	object
1	_____	Total

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing.)

N/A _____

Number of contributing resources previously listed in the National Register

6. Function or Use

Historic Functions
(Enter categories from instructions)

Transportation/ Rail related

Current Functions
(Enter categories from instructions)

Recreation/Culture: Museum Exhibit

7. Description

Architectural Classification
(Enter categories from instructions)

Other

Materials
(Enter categories from instructions)

foundation _____

walls _____

Roof _____

other _____
Crane: Metal/Iron
Tool Car: Metal/ Steel

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- 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.
- 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 values, 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

(Mark "X" in all the boxes that apply.)

- A owned by a religious institution or used for religious purposes.
- B removed from its original location.
- C a birthplace or a grave.
- D a cemetery.
- E a reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance

(Enter categories from instructions)

Transportation

Period of Significance

1910-1957

Significant Dates

1910- Crane manufactured and placed into rail service

1949- Tool Car manufactured as flat car

Significant Person

(Complete if Criterion B is marked above)

Cultural Affiliation

Architect/Builder

SPMW 7130: Bay City Industrial Works, Bay City, MI

SPMW 7131: American Car and Foundry Company

Southern Pacific Shops (modified to tool car)

Narrative Statement of Significance (Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

Bibliography

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):

- 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:

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository: Arizona Railway Museum
Chandler, AZ 85244

Name of Property _____

County and State _____

10. Geographical Data

Acreage of Property <one acre

UTM References (Place additional UTM references on a continuation sheet)

1	<u>12</u> Zone	<u>422210</u> Easting	<u>3681350</u> Northing	3	_____	_____	_____
					Zone	Easting	Northing
2	_____	_____	_____	4	_____	_____	_____
	Zone	Easting	Northing		Zone	Easting	Northing

See continuation sheet.

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.)

Boundary Justification (Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title	<u>Thomas Klobas, President</u>	date	<u>August 2007</u>
organization	<u>Arizona Railway Museum</u>	telephone	<u>480-838-7786</u>
street & number	<u>PO Box 842</u>	zip code	<u>85244</u>
city or town	<u>Chandler</u>	state	<u>AZ</u>

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A USGS map (7.5 or 15 minute series) indicating the property's location.
A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional items

(Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of the SHPO or FPO.)

name/title	_____	telephone	_____
street & number	_____	zip code	_____
city or town	_____	state	_____

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section	7	Page	1	Name of Property	Railroad Steam Wrecking Crane and Tool Car
				County	Maricopa
				State	Arizona

Narrative Description

Summary

In the present nomination, the Crane (SPMW 7130) and Tool Car (SPMW 7131) are counted as a single structure with two contributory elements. SPMW, which stands for "Southern Pacific Maintenance of Way", identifies all rail cars that are in non-revenue service and are used exclusively to assist in maintaining rail property and facilities. This would include clearing wreck sites in order to reestablish normal operations. Such equipment normally does not leave the property of the railroad. Railroads often periodically change the numbering systems used for rail equipment due to expansion, mergers and other managerial reasons. For example, SPMW was chosen several decades ago as a means of identifying maintenance-of-way equipment from that used to haul goods or people.

SPMW 7130 is an oil-burning, steam-driven, non-self-propelled railroad wreck crane which was built in 1910 as Construction Number 2250 by Bay City Industrial Works at Bay City, Michigan, for the Southern Pacific Railroad (SP). The crane, then-numbered SP 620, was placed in SP service at Tucson, Arizona, in 1910. In 1934, it was renumbered as SPMW 7034, then again as SPMW 7028 in 1940, and yet again in 1969 as SPMW 7130. It remained in service based at Tucson until decommissioned in 1989. Its primary use was in connection with railroad accidents and derailments involving both freight and passenger trains on SP lines at or near Tucson, Arizona.

SPMW 7131 is an auxiliary tool car which has custom-made compartments to carry tools, equipment and supplies necessary to assist operation of the crane in wreck service. This car was originally a wood deck flat car, one of several such cars constructed for the SP in 1949 by American Car and Foundry Company. It was converted into a tool car sometime prior to 1969 (records reflecting this conversion are fragmentary) and assigned reporting mark SPMW 7028A. In 1969, it was given its current designation of SPMW 7131.

Both pieces of equipment are in good condition and operable. Both the crane and the tool car were purchased by the Arizona Railway Museum from the SP in 1989 and moved on SP tracks to Chandler, Arizona.

Technical Specifications and Description of Crane

SPMW 7130 is a steam-operated self-propelled railroad crane manufactured for the Southern Pacific Railroad in 1910 by Bay City Industrial Works of Bay City, Michigan. Given the manufacturer's designation of a "Class T" crane, it is designed to have a lift capacity of 120 tons. It has a side sill **length**

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of 26 feet, a maximum **width** of 11 feet, one inch, and a **height** of 15 feet, 3 inches (as measured from the top of the rail to the top of the cab). Its **weight** is 217,900 lbs. of which 7,500 lbs. represents ballast. It is equipped with **four axles** mounted in tandem sets of two each (known as "trucks") at either end of the crane. The axles are of standard gauge meaning that their length spans a distance of 4 feet, 8 ½ inches from the inside of one rail to the other. The axles are of an obsolete friction-bearing type (which means the axle ends rotate within lubricated fixed metal housings without the use of ball or roller bearings). The total length of the wheel base is 19 feet, 8 inches.

It has a single boom on which are positioned two hoists. The boom is moveable and can be raised to a height of 30 feet, 6 inches (as measured from the top of the rail to the top of the tallest sheave pin) or extended to a length of 39 feet, 6 inches. The crane is equipped with three extendable outriggers on each side which when supported by proper bracing can provide greater balance for lifting larger loads. Outriggers fully extended on both sides of the crane can increase its total width an additional 23 feet, 6 inches. The crane can rotate at a maximum speed of one revolution per minute. The maximum hoist speed is 90 feet per minute.

The steam boiler has a diameter of 62 inches and can hold 556 gallons of water. The fuel source is oil. The normal boiler pressure is 125 lbs. per square inch.

Technical specifications and Description of Tool Car

SPMW 7131 was originally constructed in 1949 by American Car and Foundry Company for the Southern Pacific Railroad as a wooden deck flat car (designated as Class F-50-16). It is of steel construction with a **length** of 40 feet, 10 inches and a **weight** of 68,000 lbs. It has a load capacity of 135,000 lbs. It is equipped with four standard gauge axles mounted in tandem sets of two each ("trucks") at either end of the car. The axles are of roller bearing construction (which means the end portions of each axle rotate within housings in which are installed roller bearings to facilitate rotation). At an unknown date, but before 1969, it was modified by Southern Pacific Shops to its present configuration. In the process, the wooden deck was totally removed and replaced by a series of eleven steel specialized tool compartments. As modified, the car has a **width** of 10 feet, 10 inches, and a **height** (as measured from top of rail to highest point of structure) of 7 feet, 9 inches.

Integrity

SPMW 7130 and 7130 were purchased by the Arizona Railway Museum immediately upon their decommissioning in 1989. They were decommissioned in order to eliminate the necessity of servicing and operating obsolete steam-driven equipment. At the time of decommissioning, the crane and tool car were in operating condition. They were delivered to the museum intact with the tool car still containing

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all the support equipment used to for crane operations. The Museum has maintained the two items in the same condition as when received, the only changes being replacement of exterior lights and repairs to the electrical system of the crane. The crane and tool car both remain in operating condition. While some fading has taken place from the elements, both pieces of equipment still are painted and marked for SP service. In accordance with SP practice, the crane is in black and the tool car is in gray. All stenciling remains intact and visible. Although modified to include the addition of eleven specialized tool compartments, the tool car still possesses the general appearance of flat-bed train car employed for specialized use; its pairing with the wrecking crane preserves an important associative value, as neither of these cars could have operated without the other. Both the crane and the tool car retain excellent levels of integrity in terms of their design, workmanship, materials, and feeling.

As mobile properties, the precise historical setting for the cars is somewhat difficult to evaluate. However, the cars' current location in the yard facility of the Arizona Railway Museum, part of Tumbleweed Park, in Chandler provides a historically accurate setting in which to interpret their historical function. It is adjacent to the SP's former Chandler Branch, which is now an active part of the Union Pacific Railroad system (the Union Pacific is the successor operation to the Southern Pacific). This branch line operated as part of the SP's Tucson Division and is within the territory formerly served by the crane and tool car while in SP service. The two units are accessible to the public display, and are kept in the company of over thirty examples of vintage freight and passenger rail equipment, including several former SP cars. They are accompanied by signage that details their history and function. Their presence in a yard facility of a former Southern Pacific Branch line results in their retention of a high degree of both feeling and association.

As the cars are construed as portable resources, eligible under Criterion C, and have been moved within their natural setting (on rails) and currently exist in this setting, they do not require consideration under Criteria Consideration B.

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Narrative Statement of Significance

Summary

The Southern Pacific Railroad Steam Wrecking Crane and Tool Car are eligible for listing in the National Register of Historic Places under Criterion C as a rare surviving type of rail car associated with the development of rail transportation in south-central Arizona. As both cars worked in a single capacity, the property is nominated as a single structure at the local or level of significance. The period of significance spans from 1910, the date of the Wrecking Crane's manufacture, to 1957, reflecting the pair of cars' continued use into the modern era. 1949, the date of the flat car's initial manufacture is also identified as a significant date in the nomination.

Discussion

Wrecking cranes of one form or another have been a fixture on American railroads since before the Civil War. The Southern Pacific Railroad at one time had approximately 20 similar crane and tool car combinations positioned at major yards throughout its entire nine-state network spreading from Louisiana to Oregon. The cranes had lifting capacities ranging from 100 to 250 tons. The primary manufacturers were Industrial Works and Bucyrus-Erie Company of Ohio. Nine are known to have been of 120-ton capacity, all of which were manufactured by Industrial Works. Of the latter, only six are known to survive; none are in operational service, and none have been placed on the National Register.

SPMW 7130 operated in response to all railroad accidents and derailments occurring on the Southern Pacific Railroad's Arizona lines from the time of its purchase (1910) until it was pulled out of service in 1989. When decommissioned, it was believed to be the last steam-driven wreck crane in railroad service within the western United States. It operated in tandem with a tool car, also called an idler or auxiliary car, the latest of which was SPMW 7131.

SPMW 7130 and 7131 were the only equipment of their type assigned to the Tucson Division which in 1989 encompassed all mainline and branch tracks between Yuma, Arizona, and Lordsburg, New Mexico, a distance of 419 miles by rail. The combination would be moved to any part of the Tucson Division when and where they were needed. The Division included an additional 500-plus miles of branch lines extending from mainline junction points to terminals at Phoenix, Somerton, Nogales, Miami, and Hayden, Arizona. The Tucson Division has gradually grown in size throughout its history, absorbing territory from adjacent divisions as communications technology permitted rail operations to become more centralized, and branch lines were abandoned. Although kept in Tucson, the crane and its tool car could be dispatched to serve all SP rail operations in Arizona and New Mexico as needed, and under special circumstances, even those points not part of the Tucson Division.

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The period of service encompassed an era of total dominance by the railroad in the economic activities of southern Arizona and New Mexico. Mining and agriculture, the two most important activities, relied almost exclusively on rail services provided by the SP. Furthermore, the Tucson Division, which was first formed in 1880 shortly after the railroad's entry into Arizona Territory, formed an integral link in the second transcontinental rail route binding the eastern and western halves of this country. It formed a lifeline to burgeoning economic development in Southern California, and provided essential support to the military and national defense activities during two world wars and several lesser conflicts. Until the advent of improved highways and air travel, all intercity passenger traffic was a virtual monopoly of the railroad in this region. Therefore, any prolonged interruption to railroad operations was no small matter and would have dramatic and costly consequences.

SPMW 7130 and 7131 were the means by which derailments and accidents would be quickly cleared and service restored to normal. Known in railroad parlance as "the big hook", they were dispatched to numerous incidents and were instrumental in minimizing such delays and service interruptions. While minor derailments are a daily concern of rail operations to this day, major incidents occurred on average once or twice a year. The frequency declined in later years due to improvements in railroad traffic control, track and signaling technology.

One such incident took place at Stanwix, Arizona, on May 5, 1956. Stanwix was located on the Southern Pacific Tucson Division east-west single track mainline 164.2 miles west of Tucson. Extra 6208 West was a westbound freight train consisting of three diesel locomotives, 95 cars and a caboose. While crossing a siding switch at a speed of 53 miles-per-hour, a broken truck side frame on the 13th car caused it and the following 33 cars to derail destroying a number of the cars and considerably damaging the rest. Such a massive clean-up was made to order for the talents of the Tucson Division's only wreck crane – SPMW 7028, later to be renumbered as SPMW 7130. It and its companion tool car responded and it was only through the intervention of this equipment that this vital lifeline of commerce was permitted to reopen with minimal disruption, probably within 24 hours after the accident.

Occasionally where feasible, the crane and tool car were joined by similar units from an adjacent division to double the speed at which accidents were cleared by having each set work at opposite ends of the accident site. While primarily stationed to clear derailments and other accidents, the crane and tool car were occasionally used to assist in railroad heavy construction and maintenance projects in which their unique abilities were needed. To house repair crews during lengthy assignments or work in remote locations, the crane and tool car were often accompanied by dormitory or bunk cars which generally were obsolete passenger equipment dedicated to maintenance of way service.

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After decommissioning of this crane and tool car, the task of clearing train wrecks on the Tucson Division was given to private contractors using non-rail heavy equipment. This arrangement exists to the present day.

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Bibliography

The sources used and consulted in connection with the preparation of this application were the following:

- Hofsommer, Don L. The Southern Pacific: 1901-1985. Texas A&M Univ. Press (College Station, TX) 1986.
- Kinkaid, James. Southern Pacific: Color Guide to Freight and Passenger Equipment (Vol. 3), Morning Sun Books (Scotch Plains, NJ) 2006. (Contains photographs of crane and tool car while in SP service.)
- Myrick, David F. Railroads of Arizona, Vol 1: The Southern Roads. Howell-North Books (Berkeley, CA) 1975.
- Orsi, Richard J. Sunset Limited: The Southern Pacific Railroad and the Development of the American West 1850-1930. Univ. of California Press (Berkeley, CA) 2005.
- Peery, Steve. Oakland, CA (Personal Communication)
- Southern Pacific Railroad Archives, California State Railroad Museum, Sacramento, CA (inventory listings, purchase and repair records)
- Catalog, Bay City Industrial Works (Bay City, MI, 1923) (crane technical specifications)
- Union Pacific Railroad Archives, Omaha, NE (former SP records)
- Southern Pacific Historical and Technical Society
- Archival Records of the Arizona Railway Museum, Chandler, AZ (includes several former SP Tucson Division records)
- Interstate Commerce Commission Archives, Washington, DC (major accident reports)

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Verbal Boundary Description

The Wrecking Crane (SPMW 7130) and the Tool Car (SPMW 7131) are located on the grounds of the Arizona Railway Museum, at 330 E. Ryan Road, Chandler, Arizona. The boundary of the National Register property is limited to a 70-foot by 11-foot rectangular polygon drawn to encompass the maximum width (11 feet) of the cars and the total length of the cars (60 feet), including the four foot long coupler which connects them.

Boundary Justification

The boundary selected is that which is necessary to fully encompass the two rail cars that, while currently situated at the Arizona Railway Museum, had formerly traveled over the lines of the Southern Pacific Railroad's Tucson Division.

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The following information applies to all Photographs:

Date: July 22, 2006

Format: Digital Photograph

Photographer: R.J. Barton

Location of Electronic Images: Arizona Railway Museum, 330 E. Ryan Road, Chandler, Arizona 85249

For Individual Photographs:

Photo 1: Steam Wrecking Crane, facing west

Photo 2: Steam Wrecking Crane and adjacent Tool Car, facing southwest

Photo 3: Steam Wrecking Crane and adjacent Tool Car, facing northwest

Photo 4: Detail view of interior of Steam Wrecking Crane showing seam piston and related parts, facing west

Photo 5: Detail view of interior of Steam Wrecking Crane showing steam piston and related parts, and side hand brake, facing west

Photo 6: Detail view of builder's plate on Steam Wrecking Crane, facing west

Photo 7: Tool Car with wreck service equipment and materials, facing southwest

Photo 8: Tool Car with wreck service equipment and materials, and boom portion of Steam Wrecking Crane, facing northwest

Photo 9: Tool Car with wreck service equipment and materials, and boom portion of Steam Wrecking Crane, facing west