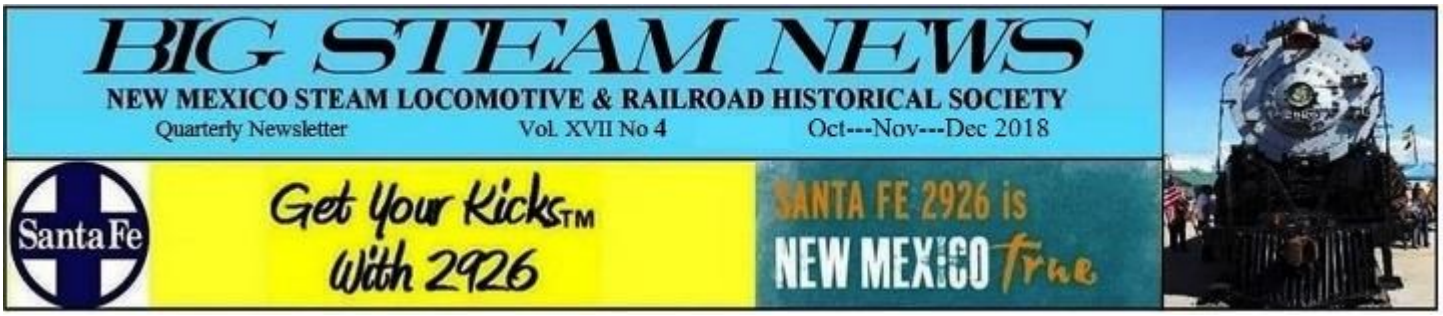
BIG STEAM NEWS

NEW MEXICO STEAM LOCOMOTIVE & RAILROAD HISTORICAL SOCIETY

Quarterly Newsletter Vol. XVII No 4 Oct---Nov---Dec 2018



THEN AND NOW

RESTORATION OF NEW MEXICO'S RAIL HERITAGE ICON

THEN 1999: Near the end of the 20th century, AT&SF Steam Locomotive #2926 was resting—and rusting— in an Albuquerque park, (Top Photo). That was about to change. In 1995, a group of New Mexicans organized to save the huge machine from further deterioration. Dedicated to preserving New Mexico's rich rail heritage, they dreamed of restoring #2926 to operation as a living history icon. In September, 1999, the group accomplished their first objective. They purchased the locomotive from the City for $1. Support from members and the public enabled a move from the park to a siding, and ultimately to the current restoration site.

NOW 2019: As the year 2018 came to an end, the restoration effort was near completion. In August, a fire was ignited, and the #2926 boiler produced steam for the first time in six decades. A bit more work, (*i.e. sheet metal, checking leaks, and testing),* and Santa Fe 2926 will again be ready for action. Now, (Bottom Photo) it soon will be a living exhibit of New Mexico's rail heritage.

Here, and on Page 2 is a brief recap of site related challenges the restoration crew had to deal with during the years-long restoration project. A summary of ongoing task activity during the last quarter of 2018 follows.

(Continued on Page 2)

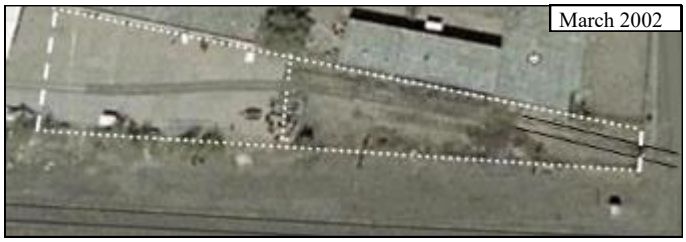
FROM THEN TO NOW

AT&SF 2926 VOLUNTEERS MET MANY CHALLENGES

Challenges faced by the new owners of #2926 were multifaceted to say the least. First, they needed a location with rail access for a restoration facility. There was no spacious building with tools and equipment. The only available space with rail access was two bare fenced lots on 8th St near I-40. It was federal property with an an old rail siding, connected to a spur that reached the BNSF main line The restoration would have to be done outside with full exposure to the elements. Old storage buildings were on one side and the rail spur to which the siding connected on the other. From 8th St., the siding entered a dirt lot filled with brush and trash. It crossed that to an adjacent, paved lot. Access was limited to the rail entry point. Between the site and the rail spur was an elm forest.. That meant a lot of non-restoration work even before development of a suitable restoration facility could begin.

Site Prep: *The Site Then And Now,* pictured at right, shows the site sandwiched between ancient storage facilities and a rail spur that once served a sawmill. The rail spur is still active, connecting the BNSF main line to Old Town, Albuquerque. The dirt lot was cleared, and rails were repaired. On May 2, 2002, #2926 was rolled across and onto the paved lot and site prep proceeded.

The photos below show early preparation tasks. *Photo 1*; Trash and brush removal uncovers track that was laid in 1937. *Photo 2:* After track repair, #2926 was rolled in. Elm forest is still in place. *Photo 3:* Elm removal, fence work, and another entry gate added. *Photo 4*: A heavy rain resulted in flooding of the new parking space created by elm removal. That revealed a challenge that would recur throughout the restoration—***coping with weather issues.***



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Infrastructure Development: Once the site was cleared, building the basic infrastructure began. Tools, equipment, and related elements necessary for a functional restoration facility were acquired or built. Fortunately, initial tasks were carried out during the summer months. The volunteers only had to deal with high heat and occasional rain.

There was a lot of help from local, state, national and even foreign individuals and organizations. Within a couple of months, a basic infrastructure allowed restoration to begin.

The 2018 photo above shows the site now. The engine house just inside the 8th St entry was added in 2016. Santa Fe 2926 is shown entering it in the bottom photo . The locomotive now has protection from the elements. Yet, most work must still be outside due to limited space in the house.

Weather Effects: Working outside meant weather interruptions that created delays and related challenges. Summers brought heat and rain. Winter brought snow as shown in the photos at left. In the full site photo, the #2926 is safe in its house. The car mover and other equipment is still parked outside and the site is hardly suitable for any work.

Security: Security was a problem that continued throughout the project. Burglary and vandalism were continuing problems, even after expensive security measures were created. Several times intruders cut holes in the fence and entered the site. One of the first was a tagging incident on the newly painted side of the tender. Others involved the theft of valuable parts. The cost of replacing the stolen items was significant. There were also lengthy delays and a lot of additional work acquiring, or even replicating the stolen parts. The volunteers persisted, and with support from a wide range of rail heritage fans, Santa Fe 2926 will operate again.

Keep On Steaming: This recap of the restoration of an icon focuses on the many challenges beyond just the restoration—especially under less than optimum conditions. Regardless of the many challenges, the New Mexico Steam Locomotive & Railroad Historical Society volunteers are near the completion of their dream—Santa Fe 2926 under steam again.

For those who would like to see more details of the restoration, please visit the NMSLRHS web site, and the links it provides. Once the restoration is complete, longtime 2926 volunteer and historian John Taylor will publish a history of the project.

AFTER THE FIRST STEAM UP

Seventeen Years Of Volunteer Labor, And There Are Still A Few More Tasks But Restoration Status At The End Of 2018 Heralds The Light At The End Of The Tunnel

The last issue of this newsletter described a major milestone in the restoration of Santa Fe 2926—first steam in more than 60 years. After repeated testing with air and water pressure, leaks were still expected at some of the many pipe connections, staybolts, valves, etc. With steam pressure approaching 240 PSI, there were leaks, but fewer than expected. More serious was a root valve failure on the fireman's side. The valve had to be replaced, and the fitting rethreaded. That, and its difficult location turned the replacement into a costly and time consuming task. Two other large tasks, sheet metal jacketing and replacement of the radial buffer, continued to occupy the work crews throughout the last three months of 2018. There were also innumerable small tasks that kept the volunteers busy through the holiday season regardless of weather and other hindrances.

Replacement Of Root Valve: The volunteers who worked on the root valve task will verify that it is a difficult to reach location. Access required removal of several other pipes and connections that had already passed leak tests. Not only did the valve have to be removed, the large pipe to which it was fitted had to be rethreaded. That required a **large, expensive** thread die shown in photos 1 and 2. In photo 2, John R., watches Ron T. work on the valve. In the first photo, the die is shown in place on the pipe. A special tool was needed to reach the end of the pipe for rethreading. The tool was an old drive shaft held by a jig clamped to the gantry crane, Photo 3. In Photo 4, the valve has been installed, other pipes reconnected, and a leak check is underway. The NMSLRHS web site has photos and videos with more details at *http://www.nmslrhs.org/Photos/2018/11-03/DSCN3241.html.*

After replacement of the root valve, and reconnection of pipes and fittings that were removed for the valve work, it was back to leak checks, using air pressure. Sometime in early 2019, weather permitting, another steam up will be done for further testing. When that is complete, the pistons will be installed, and the jacketing replacement will be finished

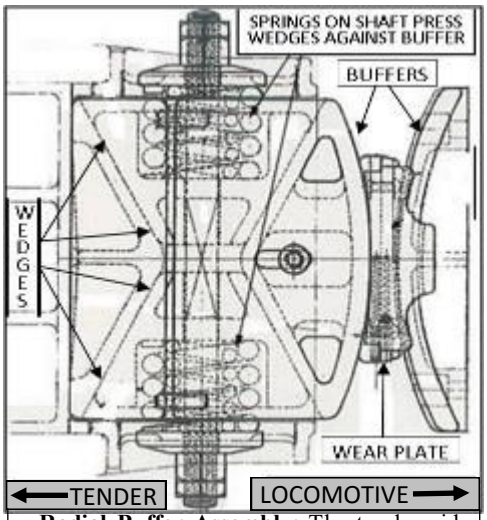
Sheet Metal Jacketing: When #2926 left the park, half a century exposure to weather and vandalism had left its sheet metal jacketing rusty, bent, and full of holes. It needed total replacement. That proved to be a long running task much like a jigsaw puzzle. The jacket was removed for asbestos abatement in early 2008. It consisted of innumerable pieces in many shapes, sizes, and levels of deterioration. All pieces were labeled by location before removal as shown in Photo 1 below. The pieces were then stored for use in producing patterns for new ones. The jacket replacement task turned out to be multi step process both on and off site.

Pattern production was done on site by #2926 volunteers. Photos 2, 3, and 4 below depict

steps in the production of patterns. Some parts were too damaged for pattern making. Those were created on the body of the locomotive as shown in Photo 4. Metal forming and painting portions of the sheet metal task were done by outside professionals. The patterns produced on site were sent to an off site shop to be replicated in sheet metal and primed. The new sheet metal parts were than returned to the site for final fitting, photos 5 thru 9. Precision fitting around pipes and other appurtenances was in many cases quite challenging as indicated in photos 8 and 9. After fitting, the pieces went to A Real Body Shop for finish painting. The final finish is mirror like as pictured in photo number 10, where some portions of the new jacketing have already been installed. Other parts must wait until final leak checks are completed.

Radial Buffer Assembly: A cold breezy December 29, the last work session of 2018, saw the completion of the long running radial buffer task. The locomotive and tender were properly connected for the first time since they were separated to leave the park in 2000. In early 2012, the buffer assembly was removed and disassembled for cleanup and repair as needed. All connections for moving about the restoration site were done carefully with just drawbars or chains

In July of 2012, the site was burglarized. The intruders backed their vehicle up to the fence, cut a hole in the chain link, entered the site and carried off what they could quickly lay hands on. Major parts of the radial buffer were among the heavy pieces of metal carried off—probably to be sold for a few cents per pound at a scrap yard. The stolen parts included the wedges shown in the drawing at right. Two large special nuts that fit on the ends of the shaft through the wedges and springs were also missing. The parts were never recovered. An already difficult task of restoring the complex buffer assembly thus became more difficult, more costly and very time consuming. Obviously, such parts were not available at a local parts store. They had to be replicated.



Radial Buffer Assembly: The tender side of the radial buffer is a complex assembly. The stolen parts were from that side. The tender side buffer is very heavy.

The owners of AT&SF 2912 in Pueblo Colorado were contacted. They loaned buffer parts from 2912 for use as patterns to replicate the ones stolen. With the help of a local metal company and work on site, the parts were produced. That did not solve the problem. When the 2900 series locomotives were built, parts were not all standardized. That included the radial buffers. When attempting reassembly, using the newly built, exact copy of the 2912 parts, they did not fit. The result was a lot of additional forging, machining, and welding—and numerous comments about the burglars.

When the assembly was removed, it was anticipated that the only part that would need replacement was the wear plate that was sandwiched between the two main buffer elements. It is made from softer metal, and is expendable. Replacing it would be a task requiring removal of the drawbars, but not the entire buffer assembly. Unless there was damage, the other parts should only require cleanup and reassembly. The theft changed all of that. The less complex locomotive side buffer had not been removed. The parts stolen were all from the tender side of the assembly.

In late December, the buffer and drawbars were reinstalled, and the tender is now properly connected to the locomotive. The pictures here provide a view of the task that was made much more challenging and costly by the theft.

Replicated Parts: The major parts that were replicated are shown here. In photo 1, Danny R. is shown re-sizing the heavy buffer. In photos 2 and 3, it is lifted onto a work bench in the front of the spring and wedge assembly. Photos 4 and 5 show the wedges and huge special nuts used on a shaft that passes through the springs and wedges. When tightened, the nuts compress the assembly.

Reassembly: In Photo 6, the wedges and springs have been installed on the shaft. In Photos 7 and 8, the new buffer is slipped into the pocket over the wedges. In Photo 9, the tender side of radial buffer assembly is finished. In Photo 10, the drawbars have already been installed in the locomotive, and Bill is checking the wear plate position on the locomotive buffer. Locomotive and tender are almost ready to hook up.

Connected: Photo 11 is a close up of the wear plate in photo 10. The hole and grooves are lubricant channels. In Photo 12, it is in place above the top drawbar. The wear plate is not the last step in connecting the tender and the locomotive. That comes when the tender end of the drawbars are pinned. And wrestling the pins in place is hard labor.

Photo 13 shows complete connection. Not sure what historian John T, is doing in there. He should get out before 2926 moves or 13 might prove to be a prophetic number.

LOOKING DOWN THE TRACK

Ernie Robart

A standout in the New Mexico steam community passed away on December 24 in Albuquerque from the effects of a stroke. Ernie Robart had a long and distinguished career in support of heritage steam in the southwest. He was present at the 1970 founding of the Cumbres and Toltec Scenic Railroad and was one of those heroic volunteers who labored to move and save the narrow gauge engines, cars and equipment before the link to the D&RGW in Antonito was severed forever. He was active in the Friends of Cumbres and Toltec and most recently was immediate past treasurer of the New Mexico Steam Locomotive and Railroad Historical Society which is restoring Santa Fe 2926. In the summer of 2017 he painstakingly re-lettered the 2926 tender with the correct ATSF font. Recently his lengthy photograph collection had begun being scanned for posterity.

Ernie is greatly missed at the Santa Fe 2926 site.

ERNIE

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Web: www.nmslrhs.org

VISITORS WELCOME

9:00 AM- 2:00 PM Wednesday & Saturday

A FEW MORE TASKS

Buffer, valves, and sheet metal were not the only tasks as 2018 came to an end. Brakes, electronics, gauges, and equipment repair were also issues demanding attention. Here is a brief recap of a few.

Folding Jump Seat: For 2926 to be operational, a new brake system was required. A 26L brake system was installed. To accommodate the new brake controls, the engineer's seat was moved back. That left no room for the original seat behind the engineer. The solution was a folding jump seat that could be dropped from behind the engineer's seat. In the first photo at right a visitor sits in the engineer's seat with the jump seat folded behind it. In the second photo, seat designer Dave V. demonstrates the jump seat unfolded.

Electronics: Since Santa Fe 2926 was last operational, there have been many technological changes, along with new regulations relating to the installation and use of new technology. That is nowhere more obvious than in the locomotive's electrical systems, as demonstrated by the need for the second dynamo that was installed

Necessary changes and upgrades have kept the electronics team occupied for a long time. That was still true during the last three months of 2018. Some time ago, a second dynamo was added to meet increased electrical demand. The dynamos needed adjustments and tweaking.

Cab instruments and lighting circuits meant the installation of much more conduit and wiring than the original electrical system. Circuits were installed under the running boards to illuminate the running gear and compressors for servicing during night running when needed. The original incandescent Cab lighting sockets were replaced for new LED lighting.

Forklift and Carmover Maintenance: The two forklifts donated at the beginning of the 2926 project have proved to be very useful. They were old when we received them, and were beginning to show wear. Both required major maintenance near the end of the year. The small one needed its lift cylinder rebuilt. The large one needed a new radiator and throttle linkage.

The car mover that has been very useful in moving the engine, tender, and other rolling stock, presented the volunteers with an even greater challenge. Both air and hydraulic systems required considerable attention. A lot of time was spent getting the braking system to work with the brakes on the locomotive.

In addition to all of the air, hydraulic, and brake work, there was also some creature comfort work needed. The operator's seat had to be replaced. While the seat was being repaired, operators used a less than comfortable folding chair. The photos at the right show the repaired seat and the temporary chair.

All three pieces of equipment are now operating better, and will be very necessary to future operation site activity.

New Tool Meister: Work is underway at our site relocating tools and equipment to make way for the 480 volt 3 phase tool car generator delivery and safe storage in one of the containers. George D. and his merry band of assistants have taken on the job of reorganizing the tool room and will be tasked with the official duties as Tool Meister.

YOU ARE INVITED TO A BIRTHDAY PARTY!

Help us celebrate the birthday of
the Santa Fe 2926

May 18, 2019
10:00 a.m. to 1:00 p.m.

At the restoration site:
1833 8th St. NW
Albuquerque, New Mexico