FRIENDS OF THE CUMBRES & TOLTEC SCENIC R.R.

C&TS Dispatch

Vol. 12 No. 1 SPRING 1999

Winter Shop Work 1998–1999

by Walter Rosenberger, CMO
Chama enginehouse photographs by Tom Cardin

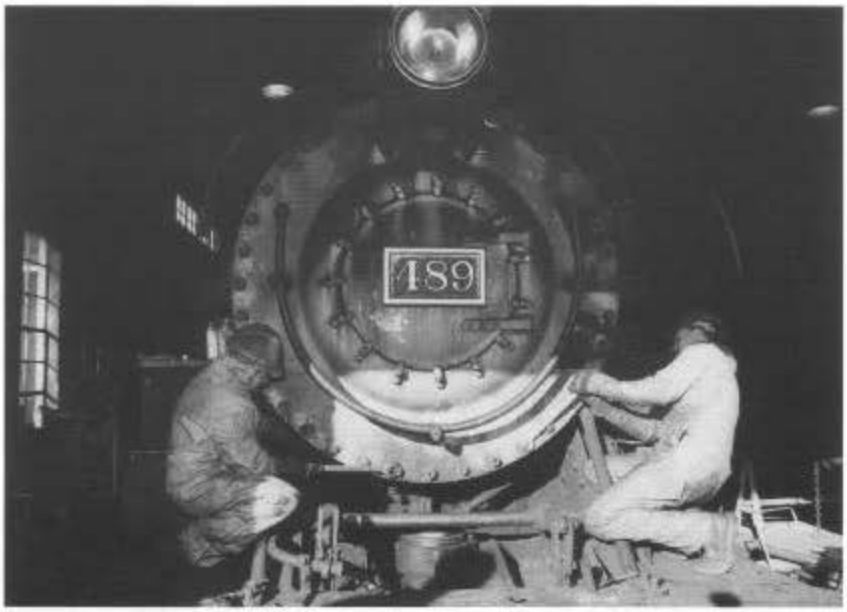
Since this is my first article as the new Chief Mechanical Officer, I feel obliged to share some of my goals and philosophies for the mechanical department. They include to

- reduce or eliminate unplanned heavy repair
- improve mean time between locomotive failures
- improve safety awareness and practices in the shop
- build and maintain appropriate spare parts inventories
- plan and schedule projects, including staffing requirements
- improve shop facilities: tooling and equipment, heating and lighting, and engine servicing areas.

I would also note that none of the work you will read about here would be possible without the dedicated mechanical department staff. As a group, I have found them to be talented, experienced, and hard-working. Their testimony is keeping five locomotives in steam on a regular basis.

Many things have been done this winter. Locomotives 463, 484, and 489 received flue extensions from the Federal Railroad Administration (FRA). The 484 and 489 also had minor repairs to firebox flue ends and grates, and the 463 had 16 tubes safe-ended on the firebox end. In addition, locomotive 487 is being completely re-flued. A new FRA Form 4 and other requirements to meet the proposed new 49 CFR Part 230 will be completed.

Appliances on all the locomotives such as the air brakes, air pumps, injectors, lubricators, and sanders are being serviced. Annual inspections on all locomotives will also be completed.



Rick Rivas (left) and Chuck Barone button up locomotive 489's smoke box on November 24, 1998, in preparation for the locomotive to pull the Santa Claus train on December 5. After returning to Chama, 489 received new piston rings and, along with the other K-36s, a new cab floor.

And I am pleased to report that phase 1 of improved shop heating and lighting conditions has been completed.

463

Locomotive 463 is in the Chama shop this winter. In preparing for the FRA flue extension inspection, we noticed numerous tubes were cracked on the firebox end. After the inspection, we decided to safe-end 14 tubes, plus the two tubes removed for the inspection. (Safe-ending is a procedure where the tube is removed from the boiler, the ends cut off, and a new short piece of tube is welded on one end. The tube is then reinstalled in the boiler. The purpose is to get new metal in the high stress areas where the tube is rolled into the tube sheet.) This action should improve the service reliability of the locomotive and reduce the need to caulk "weepers" during the season. The 463 is also getting a new throttle rod and rack.

484

Locomotive 484 was in the Chama shop through November for its flue extension inspection. At the same time, it received new steam dome cap studs (the old ones had worn threads) and several grates were replaced. After the inspection, we fired up the 484 for use on the December snowplow special and Chama Santa trains. We ran the engine to Antonito, along with the 489, flanger OL, and cabooses 0503 and 05635, and then on the Antonito Santa train on December 19. We plan to replace two broken superheater mounting bolts, and install a new cab floor. The 484 will operate this spring with the Friends' snowplow special.

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C&TS Dispatch

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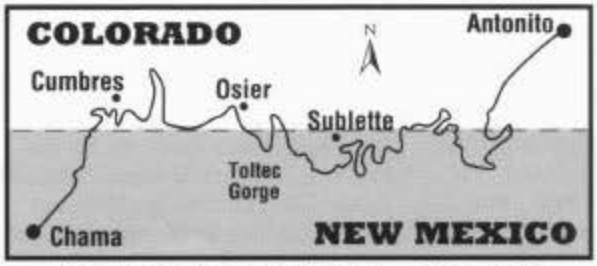
The Friends is the official museum support group for the Cumbres & Toltec Scenic Railroad, a 64-mile-long operating railroad and museum of railroad history and technology between Antonito, Colorado, and Chama, New Mexico. The railroad is owned by Colorado and New Mexico and is operated by The Cumbres & Toltec Scenic Railroad Corporation. As the museum support group, the Friends is dedicated to the preservation and interpretation of the railroad.

Family membership in the Friends is $25.00 per year; outside the USA membership is $35.00. All contributions are fully tax deductible and will be gratefully accepted. Please write us in Albuquerque or call us at (505) 880-1311 for information about the Friends. The Cumbres & Toltec Scenic Railroad is both a National and a State Registered Historic Site.

Cumbres & Toltec Scenic Railroad



Denver & Rio Grande Railway—1880 to 1886
Denver & Rio Grande Railroad—1886 to 1921
Denver & Rio Grande Western Railroad—1921 to 1970
Cumbres & Toltec Scenic Railroad—1970 to 1999

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PRESIDENT'S COLUMN

The cycle of planning and preparation for this summer's work sessions is underway. Project Planning Committee co-chair Roger Breeding has prepared a report of proposed projects, and co-chair Bob Akers has been at work contacting the leaders of our proposed projects for information on tools, materials and crew composition. The committee met in February to review this information, and in March the project report will be finalized and sent to the State Historic Preservation Offices (SHPOs). The Friends may undertake only projects which have the approval of the SHPOs of both states. Bob Akers will pass the information he collects to others who will order materials and prepare the registration materials to be mailed in March. In April, ordering and acquisition of supplies continues, discussion of project details continues, and registration forms are received from members. In early May the committee will meet again to review what further preparations are needed before the June sessions begin, and the registration team will make crew assignments, prepare rosters and send confirmations to volunteers.

This summer we will work more days on the railroad property than ever before. We have scheduled four regular work sessions and will extend our presence in a couple of ways. We will have a special session in early May to install a new sound system on the passenger cars based in Chama. All members of the Triad saw the benefit of a more effective sound system on the train and have supported its realization—the Commission and the Operator by providing funds for materials and the Friends by providing a consultant to design the system and a crew to do the installation. More than forty members responded to the call for an early work session, and about twenty of them will be able to come at the time scheduled. The new sound system will be put to use by our volunteer train hosts. Those who qualified last summer have scheduled work days for this season and we look forward to recruiting more volunteers for training as train hosts this summer.

The special focus of our work projects will be the maintenance-of-way (MOW) equipment, with the goal of making all of it operational. Our work at the railroad this summer will feature a number of MOW cars, but we are particularly pleased to begin work on pile driver OB. We have not previously scheduled work on OB because of its intricacy. We undertake it now because of our success in developing a year-round work facility in Colorado Springs. Last fall the boom tender car (06008) for OB was transported there and will likely be finished by the time you read this. Next, OB will be disassembled in the Chama yard and its tower and

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President's Column

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hoist house transported to Colorado Springs. The remaining parts will be worked on in Chama starting at the June work sessions.

Preregistration indicates that we will welcome more volunteers than ever this summer. Join us if you can, to work, or attend the annual meeting, or enjoy our freight special.

—Terri Shaw

ELECTION PROCEDURES

In accordance with our bylaws, in this issue of the C&TS Dispatch we are publishing a description of our Board of Directors election procedures. Article Six of the bylaws provides that our members shall elect directors—and nine of the sixteen seats on the board are up for election this year.

Nominations for election to the board are made by the nominating committee or by petition. The five (5) member nominating committee is appointed by the board, and its duty is to nominate nine (9) qualified candidates. Additional candidates may be nominated by petition. A petition for nomination shall contain the name of the nominee, the nominee's consent to serve, the seconding signatures of three (3) voting members, brief biographical information about the nominee, and the nominee's statement of candidacy.

The board will appoint the nominating committee at its meeting in Albuquerque, New Mexico, on March 26 and 27, 1999. Interested candidates should contact any officer, director, or member of the nominating committee to express an interest in serving on the board. All nominations by petition must be received by our Albuquerque office by April 23, 1999. Elections shall take place by written ballots that will be mailed by April 30, 1999. To be counted, ballots must be received by our Albuquerque office by Thursday, June 3, 1999 (15 days before the annual meeting in Chama on June 18, 1999).

Train Hosts—An Idea Whose Time Has Come!

As noted in previous C&TS Dispatches, the Friends have embarked on a new program of guiding and interpreting our historic railroad to riders and to those who do not ride but visit the Chama and Antonito yards. In past years there was a similar program sponsored by the U.S. Forest Service, which funded a system of representatives on the trains; this worked very well until the funding ran out. Even back in the days of Scenic Railway operations, volunteers of the Narrow Gauge Railroad Association of New Mexico provided car attendants, but this too faded along with that organization. Now comes a new effort on the part of the Friends and, if the last two summers are any indication along with the past experience of other Friends projects, this new effort will succeed.

This most recent plan came about over dinner with the Bartholomews and our own Howard Bunté and Terri Shaw. The seed was planted. It was not, however,

*See **Train Hosts**, page 7* ➔

FRIENDS TO SPONSOR FOUR EXCURSIONS IN 1999

Two Preseason Trains Scheduled

The Friends are sponsoring our second annual preseason passenger train—only this year we are doing two trains. In order to open the east half of the Cumbres & Toltec line for the first time this season, engine 497 with a pilot plow will run westbound from Antonito to Osier on Friday, April 23. Only a limited number of passengers on this trip will be able to photograph the engine plowing through the last of the winter snow. A second engine may be needed for the trip depending on the snow depth. The train will include authentic freight cars and a passenger coach in historic mixed-train style.

The next day an authentically appearing historic passenger train will depart Antonito for Osier pulling three or four of the Chama-style passenger cars. There will be numerous photo run-by opportunities on both trips, so that the east side of the railroad can be viewed in this seldom-seen time of the year. Adult member prices for the trips are $150 for the plow train, $75 for the passenger train, and $200 for both trains (nonmember prices are higher). Additional information and tickets may be obtained by calling the Friends office at (505) 880-1311 (credit card orders are accepted).

The Friends will also sponsor a stock car train from Chama on Saturday, June 19 and the Eleventh Annual Moonlight Train from Chama on Saturday, July 24. Members will receive brochures in the mail with information on all four trains.

Locomotive 463 with the 1998 Friends Preseason Excursion out of Antonito, Colorado, May 2, 1998. John Schwartz photo.

Flue tubes for the 487 on the rack in front of the 463 in the Chama enginehouse, December 1998.

Winter Shop Work

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487

The 487 re-fluing project began in mid October and as of January 1 is approximately 50 percent complete. The scope of the project has increased to include meeting the requirements of the proposed 49 CFR Part 230 steam locomotive inspection rules. Specifically, this means that the entire boiler will be ultrasonically tested to measure sheet thicknesses, and a new FRA Form 4 will be generated. Form 4 is used to calculate the maximum allowable working pressure of the boiler (currently 200 psi). Assuming the new rules are promulgated as proposed, the 487 will have 1472 service days or 15 calendar years before the next flue removal. A service day is any calendar day in which there is fire in the firebox or pressure above atmospheric in the boiler. If we run the engine 5 months each year, that will work out to about 10 years before re-fluing. This is about the same length of time we currently get on a set of flues, but under the new rules, there will be no extensions to deal with. If you wonder if the FRA is being kinder and gentler to us, the answer is "No." They are tightening up on daily, monthly, quarterly, and annual inspection requirements (soon to be daily, service day 31, service day 92, and annual inspections, respectively).

The 487 will receive new valve rings, steam-dome cap studs, injector steam piping, and a new cab floor this year. Valve piston rods are being resurfaced where they have worn in the packings.

488

I regret to report that the 488—by some reports the best steaming engine we have—will have to stay in the roundhouse this year. We simply have our plates full with the engines that were in steam last year. We had only one engine, the 497, that was not due for a flue extension this year. This was a tough year in the firebox and all of the engines needed at least some boiler work, and many of the appliances had reached a state of unreliability. I reasoned that if we worked to improve the reliability of the engines we have in steam, there will be more resources available to return the 488 to service. Flues that were ordered for the 488 were used in the 487.

489

The 489, like the 484, received its flue extension inspection and then was pressed into service on the plow and Santa trains. It returned to Chama and will get new piston rings and a new cab floor. You can see that we plan to give all of the K-36s new cab floors. They are worn through and are a footing hazard. The 489's flues are next oldest to the 487's and are in pretty rough shape on the firebox end, so we plan to re-flue it by next year.

497

The 497 has been in Antonito since taking the hospital train over in late October. It was not due for a flue extension, and had over two week's worth of staybolt work done this past summer. With space for only four engines (without tenders) in the Chama enginehouse, it became the logical choice to send to Antonito. It will operate on the snowplow train in April with the 484.

19

Three major problems were found on diesel 19: a broken valve seat that disintegrated, battered the piston, and ruined the sleeve; a cracked head; and problems with the no. 2 traction motor. The engine failures were costly because new pistons and heads are getting rare (read pricey). We should start looking now for an alternative to the old D1700 prime movers. The 19 will stay in Antonito this winter, and it is hoped will be repaired in time to do the switching as needed for the car work being done there.

Appliances in General

We are sending the locomotive brake valves out to a certified brake shop on a rotating basis, two sets at a time. The remaining sets are being cleaned and oiled in-house. We plan a similar program for the passenger brake valves. We are going though all of the mechanical and hydrostatic lubricators, terminal checks, air pump governors, air pumps, injectors, dynomotors, and sanders. We may not get them all rebuilt, but we will clean them up and take note of what we have to deal with.

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Orlando Ulibarri (left) and Chuck Barone work in the smoke box of locomotive 487, January 1999.

Bill Jeffcoat turns a bronze piston ring in the Chama enginehouse, January 1999.

Donald Martinez uses a needle gun to descale flue tubes, January 1999.

Cars

Marvin Casias and his crew—Ron Lopez and Sam Ruybal—in Antonito are busy with the 19 and several passenger car projects. Their first priority is the restoration of the Hinman coach, which was moved from Chama to Antonito in the hospital train in late October. A significant amount of wood framing and steel side sheets are being replaced. The car will be quite an attraction when completed. Work on a steel flat-car frame has begun in preparation for construction of a new passenger car.

Shop Facilities

We all knew that the heating and lighting systems in both shops needed improvement. However, I didn't know how dire the need was until winter arrived. With one (sometimes two) of the six unit heaters in the Chama shop actually running, morning temperatures hovered around freezing. Afternoon temperatures might reach the mid 40s if the weather was mild and sunny. The soot-covered light fixtures didn't brighten the situation much, either. Working with a manufacturer's representative, I came up with a phased approach to improving the heating and lighting conditions.

With the Railroad Commission's help, we completed phase 1 in the Chama enginehouse in December. We removed the old unit heaters and installed two 200,000 Btu/hr 80-ft long, low-intensity gas infrared heaters. These units radiate heat onto the floors, walls, locomotives, and equipment, which in turn re-radiate to heat the space. The result is much more comfortable and productive working conditions. Temperatures now range from a low in the mid 40s to nearly 60° F. We also installed two new high-efficiency light fixtures. We will evaluate how each of these units performs, particularly with regard to the soot problem. Subsequent phases include heating the Antonito shop, installing the remaining heaters required for the Chama enginehouse, and heating the Chama machine shop.

Walt Rosenberger came to the C&TS in August 1998 from Greenville, North Carolina. He has a Master of Science in Mechanical Engineering from North Carolina State University and is a licensed professional engineer in North Carolina and Tennessee. His experience includes project manager, mechanical design engineer, paper process engineer, and boiler inspector. He has been a volunteer on several preserved steam railroads, and Walt recalls that he first operated a locomotive when he was 11 or 12 years old.

Walt Rosenberger uses an ultrasonic device to measure boiler thickness on the 487, January 1999. Tom Atkinson (not shown) is also a member of the Chama enginehouse crew.

Work Session Registration Packets

Applications for 1999 work session registration packets were sent with this year's membership renewal letters. If you didn't receive an application and would like to reserve a registration packet, please contact the Albuquerque office. Packets will be mailed in late March, and registrations must be received by the end of April.

ROBERT BURGGRAAF

Robert Burggraaf of Longmont, Colorado, died on November 20, 1998. He was a member of the Colorado Society for the Preservation of the Narrow Gauge, which in the late 1960s was a leader in the movement to preserve what is now the Cumbres & Toltec Scenic Railroad. Bob was also a member of the group that worked to bring locomotive 463 back to the railroad, which was done in the early 1970s. He was a long-time volunteer at the Friends' summer work sessions.

Report From The Project Planning Committee

by Roger Breeding

Summer Projects

Once again, an ambitious suite of projects is being planned for the coming summer. Many familiar projects, such as the interior restoration of the section houses at Cumbres and Osier, will continue. (Funds for the materials for these two projects have been supplied by the state of Colorado from gambling funds set aside for historic preservation.) Work will also continue on the refrigerator cars, cook car 053, the coal tipple, and caboose 0579.

We have started ambitious rebuilding projects to ensure that some sound cars will be left in 20 to 50 years. Our concern is engendered by the fact that the wood in most of the freight cars is now over 70 years old and has been exposed to severe weather for that time. The open cars, such as flat cars and gondolas are in the worst shape. Flat car 6200 was rebuilt with all new wood at the Western Museum of Mining and Industry in Colorado Springs last year, and sister car 6214 should be rebuilt there this year. These cars were rebuilt by the D&RGW with mostly steel frames in the late 1930s, but no piece of wood on 6200 could be found that was sound enough to be retained. Similarly, wood-frame flat cars 6708 and 06008, when dismantled in Antonito and Colorado Springs, had no reusable wood. Car 06008, built as a flat car in 1887, has been used for company service since the 1920s or earlier. For decades it has been the idler flat for pile driver OB. Flat car 6708 was converted from stock car 5533 to serve as an idler flat for pipe service in 1955. It had rails fastened under the side sills at that time to compensate for the loss of the structural strength provided by the truss frame of the stock car.

We have also begun restoration of wheel and tie car 06092, a wood-frame car from 1887; it has a wooden bin on one end to hold ties and rails fixed to the deck on the other end to allow trucks or individual wheel sets (an axle with wheels on each end) to be carried. Some of the frame was in good enough condition to be retained and we have been inserting splices in the longitudinal sills rather than replacing the entire sill.

Lest this rebuilding effort raise fears that only replicas of the original cars will remain on the C&TS in a few years, let me point out that the Friends are responsible for the maintenance of over 120 cars. Even at a rebuilding rate of two cars per year, it would be more than 60 years before all the cars were rebuilt. Further, we've picked the wood-frame cars in the worst shape for rebuilding, since these cars were already completely unfit for use in a train and would soon disintegrate completely anyway. The end sill on one car was so far gone that the brake wheel had completely fallen off. Preserving original wood on cars like this has little to recommend it.

Continuing our focus on the unique work-train cars at Chama, this year we hope to start the restoration of the pile driver OB, the flangers, and the three outfit boxcars that have had no maintenance in decades. The three outfit boxcars are wood-frame cars that were converted to company service early in this century. Car 04426, labeled "Cable Car," was apparently used to carry all the cables needed to rerail cars and locomotives following a wreck. Car 04549, labeled "Tool Car," was used to carry tools for general maintenance of the track, bridges, trestles, etc. Car 04904, labeled "Water Service," was used to carry the specialized tools and parts needed to keep the water tanks and their supply pipes operating. It would have been moved from water tank to water tank along the railroad. If the repairs took several days, a bunk car might have been set out with the water service car and the plumbers and carpenters may have lived at each tank until the needed repairs were made.

The 900 boxcars in the 4100–4999 series are believed to have been built in the 1880s, making the seven surviving on the C&TS among the oldest cars on the railroad. The use of the 4100–4999 boxcars in revenue service is believed to have declined rapidly after the larger, sturdier boxcars in the 3000–3749 series arrived in 1903. Three of the seven boxcars from the 4100–4999 series are basically unmodified: 04426, 4444, and 04549. Car 4444 was in company service as the "Block Car" 04444 for many years, but has been painted as a regular boxcar with its original number. Car 04904 has had two windows installed in one side, one in the other side, and a door in one end. It retains the boxcar sliding doors on the sides, however. The other three cars, 04407, 04258, and 04982, have been modified into bunk cars for section and maintenance-of-way crews.

Cars 04426, 04549, and 04904 have been located on a piece of bad track for some years with no maintenance or painting in decades. Car 04426 needs its roofwalk replaced. The wooden buffers are also in fair to poor condition. Car 04549 needs journal and brake work; some brasses are damaged and some brake parts are missing completely. Some siding has been damaged and the roofwalk must be replaced. Both doors need major repairs or replacement. Car 04904 needs truck and brake work. The coupler pockets and wooden buffer blocks are in bad condition. Major roof, window and door work is required, and the B-end side corner angle is rusted out.

Pile Driver OB was built by the D&RG in 1891 for $399 using a purchased hoist and engine. In 1920, OB overturned about six miles west of Antonito on its way to rebuild a washed out trestle at Chama and was probably rebuilt at that time. Since it has no boiler, it is a relatively simple piece of machinery. It is pushed to the location where it will be used by a locomotive that supplies the steam required to run the two-cylinder steam engine powering the hoist. A separate

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Rotten longitudinal sills from flat car 06008 outside the Friends' facility at the Western Museum of Mining and Industry in Colorado Springs, October 1998. Art Nichols photo.

gear system turns a cog wheel which engages a ring gear underneath the pile driver to turn it around on the flat car supporting it. Several teeth on the ring gear are missing.

Pile Driver OB consists of five basic parts: flat car, pile-driver frame, tower, hoist machinery, and hoist house. Underneath it all is a basic wood-and-steel-frame flat car with a pivot point and a large ring gear mounted in the center. On top of this sits the pile driver. The pile driver frame is also of wood and steel construction. At the back end the hoist machinery sits in a small wooden enclosure. The other end is tapered and supports the tower. The tower end of the pile driver overhangs the flat car by about 8 feet, so an idler flat car is always coupled next to the boom end of the pile driver except when it is working. The tower folds for movement and is erected into its vertical position at the work site. The tower is also of composite wood and steel construction.

The pile driver frame is badly cracked in the middle. The tower end of the frame is heavily reinforced with steel since it has to support the tower out over the end of the car, and the tower is subject to all the strain and shock of repeatedly raising and dropping the weight. The pile driver frame under the hoist machinery is also reinforced with steel to support the machinery. Unfortunately, the frame at the front of the hoist house, which is right over the pivot point, is not reinforced with steel and the heavy timbers used to make the frame have cracked. The bend in the frame is readily visible to anyone who looks along it. Other wooden parts of OB are also in bad shape: specifically an end sill, some parts of the tower, and the decking on both the pile driver and the flat car. We plan to begin restoration of the pile driver by removing the hoist house and tower from the pile driver frame and the frame from the flat car. The hoist machinery may have to be removed from the pile driver frame to rebuild the frame. Restoration of OB will take several years.

The flangers used on the D&RG/D&RGW narrow-gauge lines were designed by a D&RG foreman in Leadville and patented by the D&RG in 1885 (*Narrow Gauge Pictorial, Vol. VII*, J. B. Day, 1989, p. 19). The railroad evidently found the flangers very useful because they eventually built 11 of them. Flangers OC through OL were all rebuilt with wood frames in 1913. These flangers plus OT (built by the D&RG for the Crystal River Railroad and purchased by the D&RG in 1920) were rebuilt again with steel frames between 1929 and 1943. Of the 11 flangers, only 3 were scrapped. The others ended up on tourist railroads or in museums or city parks. Flangers OF, OJ, OK, and OL came to the C&TS, but OF was sold to the Durango & Silverton in 1981. OF and OL were the only two flangers with hinged blades or double wings. These allowed them to clear the snow much further from the track than the other flangers. The basic frames of the flangers are steel and need only paint; however, there is a wood frame and a wood deck, and some of the operating mechanisms and appliances are attached to this frame and deck. This wood is now rotten since it has been sitting out in the weather for over fifty years.

Roger Breeding is co-chair, along with Bob Akers, of the Project Planning Committee. Roger is also a Friends director.

Train Hosts

Continued from page 3

Train Host Lee Ritterbush on board, 1998. Spencer Wilson photo.

until the work session of 1997 that the seed matured into action. Howard started out in the Chama yard before train time, with the crowds, and then onboard before departure. These seemed to be "on track!" Howard also recruited Spencer Wilson, then we had two hosts but only for the work session that year.

In 1998, with more members volunteering, we had ten hosts and began riding the trains from both Chama and Antonito. A personal note on riding from Antonito—riding the bus over each morning permitted the host to sit in the jump seat up front and regale the folks with local lore, plants, and animals—especially when a herd of elk or lone deer appeared. Great fun!

So Harold and Joanne Jensen, Carol Mackey, Carol Salisbury, Al Ratzlaff, Frank and Joanne Yockey, Lee Ritterbush, and Howard and Spencer made up the crew. All seemed to work very well with one important exception—the outdated speaker systems on the trains were very hard on the vocal chords.

But that experience prompted Lee Ritterbush to do something about it. On September 2, 1998, Lee submitted a very detailed report to the board of directors recommending a whole new audio system for both trains. The upshot of his work came at the December meeting of the Railroad Commission. The Commission and George Bartholomew agreed to fund the project with the Friends providing the labor over a two-year period. These new systems will benefit both the train conductors and our riders. The host will be able to use the same speaker system as the conductor but the two will not conflict.

There is another major benefit to our participation in the program. In investigating the requirements of the Federal Disabilities Act as applied to various Friends' programs, walking tour brochures, for example, this system recommended by Lee will satisfy the obligation of the Friends, the Railroad Commission, and the Operator to do as much as possible to "interpret the railroad to visually handicapped riders."

Plans call for Friends' Hosts to ride and talk throughout the operating season. The ride is free! Lunches will be provided. We are insisting that a Host agree to a minimum of four days riding. Volunteers should check with the Friends' office in Albuquerque for scheduling to prevent conflicts. Let us start with Opening Day in 1999 and on into the millenium! This is truly an idea whose time has come. Sign on and have fun meeting the folks who visit.

–Spencer Wilson

NARROW GAUGE NEAR AND FAR: NO. 15

Engine and Train Crews

by Earl G. Knoob

Throughout the history of the Denver & Rio Grande Western's narrow-gauge operations between Alamosa and Durango, Colorado, Chama, New Mexico, has always played a major role. Chama was both the division point and a helper station for trains headed eastward up the steep grades of Cumbres Pass. Although many of the engine and train crews that worked to Chama lived in either Alamosa or Durango, for many years Chama was home terminal for a few train crews and several engine crews.

The main job for the engine crews was to help the trains up the steep grade from Chama to Cumbres. Back around the turn of the century, a typical train running either west from Alamosa or east from Durango consisted of two, small 60- or 70-class 2-8-0s (later known as C-16s or C-19s) and somewhere between 12 and 20 cars.

A train arriving in Chama from Alamosa would be sent on west as soon as a crew was available. This crew would be based in Durango, so they were happy to be headed back home. A train arriving in Chama from Durango would be sent on east with an Alamosa-based crew and the addition of at least one or two helper engines from the Chama helper pool. At Cumbres, the Alamosa crews would continue on east, the Chama crews would return down the hill.

Additional traffic in the form of lumber being cut west of Chama gave the town's engine and train crews more duties. Large logging operations running north and south out of Lumberton, twenty miles west of Chama, required regular trips from Chama to Lumberton and back bringing flat cars loaded with lumber for eastern markets. Additionally, coal mined in the Monero area added to the tonnage. Frequently, this added tonnage required extra trips from Chama to Cumbres, where the cars were set out to be picked up later by Alamosa-bound trains.

The lumber traffic began to dry up in the late teens. With its departure, the Chama switch engine was probably discontinued. Coal continued to be mined at Monero, but in smaller quantities. With the arrival of modern locomotives in the 1920s, the railroad population living in Chama was reduced considerably. After 1930, it is doubtful any engine and train crews were based out of Chama, but the railroad continued to employ station agents and section crews, as well as a small enginehouse force of a foreman, hostlers, watchmen and assorted helpers. The larger locomotives had replaced the smaller ones by a margin of more than two to one and the work force requirements reflected this.

From the 1930s until the end of narrow-gauge operations, a pattern developed that was followed fairly consistently, allowing for variation in traffic density. Trains were called as needed for the traffic on hand. Generally when a train left Alamosa, one was also called in Durango. If traffic was heavy and trains needed to be expedited, the Durango train would be called earlier so that it would arrive in Chama eight hours ahead of the Alamosa train. The Durango crew would be called back to duty when the helper engine rolled into Chama from Cumbres. The Durango crew would swap their caboose for the Alamosa crew's, place their two engines on the head end and head west an hour or two after the train arrived in Chama. During the oil field boom and the heavy traffic in pipe in the 1950s, the operator at Ignacio would call Alamosa when the westbound train passed. A Farmington Branch crew would be called then. They would get their engine and caboose and meet the train at Carbon Junction, five miles south of Durango, swap their caboose and engine for the Durango crew's and head south to Farmington.

In the days before the pipe rush, Farmington trains were infrequent, often only once a week. During these slow times, operations were much more relaxed. Usually, the Farmington run was done by the Silverton Branch crew on one of their "off days" of the tri-weekly mix.

Back in Chama, the Alamosa crew would return to duty after getting their required rest. They would then cut their train into sections that their engines could take up Cumbres. Generally, two trips from Chama to Cumbres and back could be made in a 8–10 hour day. The crew would then tie up again for eight hours rest. After going back on duty, they would make a third trip to Cumbres with the remainder of the train, couple the sections together and then head for Alamosa, the helper running light ahead of the train. Two locomotives could get anywhere from 12 to 30 cars up Cumbres depending on whether the cars were loads of Gramps oil or empty pipe flats. The oil business as well as eastbound coal from Monero could swell a train's length and tonnage considerably. When the Gramps oil field was in full production, 12 cars a day were shipped out—enough cars for one hill turn.

When traffic was heavy during the oil field pipe rush or during the fall stock season, a third locomotive was used with another Alamosa-based crew. After helping the third section up the hill, they would return to Chama to await the next train. Sometimes an Alamosa crew would be forced to live in Chama for several days before being sent home again. During the fall stock season, four-engine trains could be seen. Because regulations required livestock to be unloaded and fed on a regular basis, the stock trains did not get "doubled" up Cumbres and ran as one long train. Usually one locomotive would be on the front, two locomotives cut in the center, and one ahead of the caboose. This way, if the train stalled, the lead locomotive and two mid-train helpers could cut away from the rear half and rear helper. Using three engines they could get half the train up the hill. Once on top, the two middle helpers would return to the remaining

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half and with the rear helper to assist, make it to the top.

Trains out of Durango tended to be run with one engine. With only two, 5-mile stretches of two percent grade to be tackled, a helper locomotive would be added for the climb out of Carbon Junction to Falfa. Once there, the helper would return to Durango. The train would continue east as far as Lumberton, where the extra tonnage would be set out before starting the climb up through Monero Canyon to the Continental Divide west of Chama. When enough cars accumulated in Lumberton, a Durango crew that had spent the night in Chama would be sent down to Lumberton to pick up the extra cars and bring them in to Chama. The crew would then tie up for rest again, before heading back to Durango.

All freight jobs were run off an extra board. Once a crew was done working a job, they went to the bottom of the list and worked their way up again. How much you worked depended entirely on how much traffic needed to be handled. As trains could and did run at all hours of the day and night, when weary enginemen and trainmen tied up they really didn't know when they would be called out again. The only guarantee they had was eight hours off before they were subject to call. At the time the narrow gauge was in regular operation, the Hours of Service Law allowed crews to work up to 16 hours before relief. If a crew member worked 16 hours, he would get a guaranteed 10 hours off. If he worked less than 16, the company only needed to give him 8 hours off.

The only exceptions to this were the switch engine crews in Durango and Alamosa and the passenger train crews. These jobs were called at certain times every day. Crews bid on these jobs based on seniority. The Durango switcher generally had a high seniority crew (for many years, the highest seniority engineer worked the Durango switcher). The job worked six days a week, called at 7:00 a.m. The crew was home every night, and probably didn't actually work more than 6 hours a day (and got paid for 8 or 10 hours). Passenger trains worked a little different than freights. Passenger train crews worked straight through from Alamosa to Durango, but engine crews worked to Chama and return. The engineer and fireman on the San Juan passenger out of Alamosa worked to Chama, tied up for four hours rest and then took the eastbound back to Alamosa that afternoon—getting two days pay out of the deal. The engine crew on the San Juan out of Durango worked through to Chama, then spent the night there before returning home the next day.

Through-truss bridge and water tank at Navajo, MP 377.7, thirty miles west of Chama. The bridge, which crosses the Navajo River, is the same design as the Chama River Bridge on the C&TS. There was also a 23-car siding located next to the water tank. August 1993, Art Nichols photo.

While the high seniority engineers bid on the San Juan, the firemen didn't particularly care for the job. Crews were paid by the mile run, and passenger trains paid at a lower rate than freight trains. A fireman from Durango got paid less to fire the San Juan than on a lowly freight. Occasionally, the San Juan engine crew arriving in Durango could be pressed into service as a helper crew to get a heavy train out of Carbon Junction to Falfa, thereby getting a little overtime.

Surviving train registers show that it was common to run many freights at night or in such other ways as to keep them out of the way of the passenger train. Seldom was a freight dispatched from Alamosa, Chama or Durango a few hours ahead of a passenger train; it usually departed five to six hours before or shortly behind the train. This was done to ease dispatching. There were very few train order offices along the narrow gauge, and running the trains as far apart as possible, kept things simpler.

It's easy to look at the fading photographic images and see nothing but the romance and glory in working on the narrow gauge or on any other railroad in the days of steam. But to the men who worked all those nights in the cold, missing their family and other social activity, it was nothing but hard work. Glorious hard work.

As one retired Durango-based engineman said to me referring to his many nights between Durango and Chama, "We did a lot of work by the light of 'The Rio Grande Sun.' "

Earl Knoob is a consulting director of the Friends. His column appears regularly in the C&TS Dispatch.

PRESERVATION PERSPECTIVE: NO. 14

It does snow in Chama! The westbound San Juan is at the Chama depot on February 13, 1948. On this day K-28 locomotive 476 heads a 5-car consist including an RPO, baggage car, 2 coaches and a parlor car. Photo by Otto Perry, The Denver Public Library, Western History Collection.

Missing (Car) Bodies

by Keith E. Hayes, AIA

In 1970, the states of Colorado and New Mexico purchased a portion of what once was a 400-plus-mile mainline narrow-gauge railroad. The 64 miles of Cumbres and Toltec trackage was built in 1880 and lasted in irregular steam service well into the 1960s. Along with the track, the states received a large collection of rolling stock and locomotives, the survivors of over a century of mountain railroading. Among the freight equipment included in the sale were boxcars, high-side and drop-bottom gondolas, a few refrigerator cars, flat cars, and pipe cars converted from gondolas. A few stock cars, some cabooses and a unique collection of maintenance cars also remained. Some examples of historic rolling stock were missing, however.

Notably absent from the collection are examples of passenger cars that traveled across Cumbres Pass daily until 1951. Typically, the San Juan included a mail car, baggage car, coach and parlor car, pulled by a 470- or occasionally a 480-series locomotive. What passenger cars remained after scheduled San Juan passenger service was discontinued in 1951 were assigned to service on the newly famous Silverton line. Tourist business on the Silverton line was so good that in 1963 new passenger cars were constructed in Denver, and the remaining passenger cars in maintenance service were cannibalized for their smooth-riding passenger trucks. The remaining mail and baggage cars were either scrapped or assigned to maintenance service; curiously, mail cars were favored over baggage cars, and the C&TS received three of this type car in 1970. Fortunately, the Friends have been able to collect two additional passenger cars, a coach and rare narrow-gauge Pullman, which await preservation in Chama today.

Although the oil and gas business was prolific to the end, a fire at the refinery in Alamosa caused tank car operations to cease in the mid 1960s. Of the fleet of 56 leased tank cars, 16 were shipped to Alaska and most of the rest scrapped. The Friends brought back six narrow-frame tank cars from Alaska in 1992, and negotiated the return of two GRAMPS frameless tank cars this past summer.

The transportation of livestock to seasonal pastures represented a frantic although not very profitable source of business. Cattle and sheep had to be watered and rested every 28 hours, so livestock trains represented the closest thing to a red ball train seen on the narrow gauge. The Rio Grande had over 500 stock cars at one point, and maintained upwards of 100 to the end of operation. Cattle were shipped in single-deck cars, 50-60 to a car, while sheep, being smaller, were handled in double-deck cars, 155 sheep per car. Three cattle cars were sold to the states and although no double-deck cars were sold to the railroad, six sheep cars were returned to the railroad in 1992 and have subsequently been restored by the Friends.

In 1924, the D&RGW constructed 100 new 34-foot-long stock cars and assigned them numbers in the 5900 series. These had cast steel hardware and long wheelbase trucks. Ironically, the longer cars carried the same number of cattle and sheep as the 5500-series stock cars. Crews disliked the longer cars as they required additional maneuvering at stock chutes like those at Chama, which are built to accommodate two of the shorter cars. During the oil boom, when older wood-frame gondolas and flat cars were literally splintering mid-train under heavy loads, the 5900 cars were scrapped and hardware from these cars recycled into new open-end pipe gondolas. No examples of the long stock cars are known to survive.

Speaking of recycling standard-gauge cars, prior to World War II, the Rio Grande recognized the need for new flat cars capable of carrying heavy machinery to on-line industries. Ever resourceful, the railroad converted older standard-gauge steel-frame flat cars to narrow gauge, and all 45 survived to the end of operations. Some 14 cars were sold to the states, but all appear to have been rebuilt as passenger cars by the C&TS. Perhaps the Friends can locate another example of these rather modern flat cars.

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At one time, every train trailed a crummy, or caboose, for the train crew. The Rio Grande had over 30 cabooses on the narrow gauge, generally in two lengths—long and short. While nine crummies are listed in the final D&RGW roster, only one long caboose—0503—was sold to the states. Although you might have seen two other cabooses in the Chama yard, 0306 and 05635, these were constructed from a boxcar and stock car, respectively, in 1982 and 1976. Recently, the caboose body in Antonito has been confirmed to be that of short caboose 0579, and the Friends are in the process of restoring this car to operation.

On balance, the Friends have made a real contribution to the railroad, bringing back to the rails a number of missing car types. I expect this trend to continue, and hope to see the San Juan recreated one day, complete with a baggage car–anyone got any leads?

Keith is a long-time volunteer at the summer work sessions. His column appears regularly in the C&TS Dispatch.

Have YOU Ever Been To a Friends' Work Session?

If your answer is "No," my next question is "Why not?" I'm sure that some of you have not really thought about it—or, maybe you think we are/were experienced, trained railroad employees. Nope! Not hardly.

For the most part, we're regular people with regular jobs who enjoy the beauty of the Rockies, the sight and sound of steam locomotives, and would like to help preserve some of the past.

I know that you're saying, "What is there that I'm qualified to do??" Well, can you hold a paint scraper? A paintbrush? Hammer a nail? Tighten a screw? Push a broom or operate a vacuum cleaner? Maybe you have a strong back? If any of these apply to you, then you are qualified!!!

If you enjoy meeting nice people and talking about trains, you should seriously consider spending some time with us. We have lots and lots of things to do, things to learn, and things to teach.

AND, we'd love to meet YOU!!

My husband worked one year and enjoyed himself so much that I joined him the following year. Mostly, I came along for a week away from home. I did not think there would be much I could offer to the work session. Guess what?? That was five years ago. I worked that year and *we* have worked every year since. We've met hundreds of Friends (of the C&TSRR) who have become wonderful friends. We feel like family. We work, we smile, and we enjoy. Please read the following article by one of the 1998 workers to see what I mean.

We'd love to meet YOU in 1999!

–Doris Akers

The Chama coal tipple, 1989. Tom Cardin photo.

Working With The Fowler Brothers—Parker and Hugh

Monday morning after the Safety Meeting, we headed off to the coaling tower. *We* are David LeMmon, Clyde Putman (who had just had an unfortunate automotive encounter with the native wildlife), and me, John Schwartz. After a song and a dance (literally), we got down to work removing the layers and layers of dirt and grease. Two days, several buckets of grime, and a few more songs and dances later, we started to see bare metal.

Several times during this cleaning process, I looked for the manual for the diesel engine that raised the buckets when the tipple was in full use. However, I found that Parker was a walkin', talkin' encyclopedia of knowledge and did not *need* a manual. I originally thought this was a steam engine; but, I got quite an education (as did anyone who wandered by) about this Y-type Diesel Fairbanks Morse Engine. Parker and Hugh were hoping to get it running by the end of the session—but, the years of rust, dust and muss got the better of them. It will have to wait 'til next year.

Somehow, the Fowlers managed to maintain a very dignified and reasonably clean appearance (unlike David, Clyde and I, who were sometimes mistaken for railroad mechanics). Of course, one day Hugh was mistaken for an inverted garbage bag as he sprayed the outside of the coal tower while modeling this latest fashion for protection from paint!

This was a most enjoyable project to work on. The entertainment by the Song & Dance Team of Parker and brother Hugh left nothing to be desired, while Deer Slayer (Clyde) and I shoveled grit and grime, and David applied meticulous elbow grease.

I look forward to next year's project.

–John Schwartz

1999
SCHEDULE OF EVENTS

April 23, Friday
Friends' Snowplow Train

April 24, Saturday
Friends' Passenger Train

May 15, Saturday
Opening Day

June 14–18, Monday–Friday
Volunteer Work Session A

June 21–25, Monday–Friday
Volunteer Work Session B

August 16–20, Monday–Friday
Volunteer Work Session C

August 23–27, Monday–Friday
Volunteer Work Session D

October 17, Sunday
Closing Day

It was snowing when Santa Claus (Tom Cardin) met the Christmas train at Lobato on December 5, 1998. Dave Horning drove his sleigh, which as in 1997 was pulled by his purcherons. Bob Akers photo.

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