

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN
ACCIDENT ON THE ATCHISON, TOPEKA & SANTA FE RAILWAY AT
LYNN, N. MEX., ON MARCH 27, 1934

June 7, 1934.

To the Commission:

On March 27, 1934, a freight train on the Atchison, Topeka & Santa Fe Railway broke in two at Lynn, N. Mex., the caboose being buckled by the two pusher engines coupled behind it, resulting in the injury of one employee.

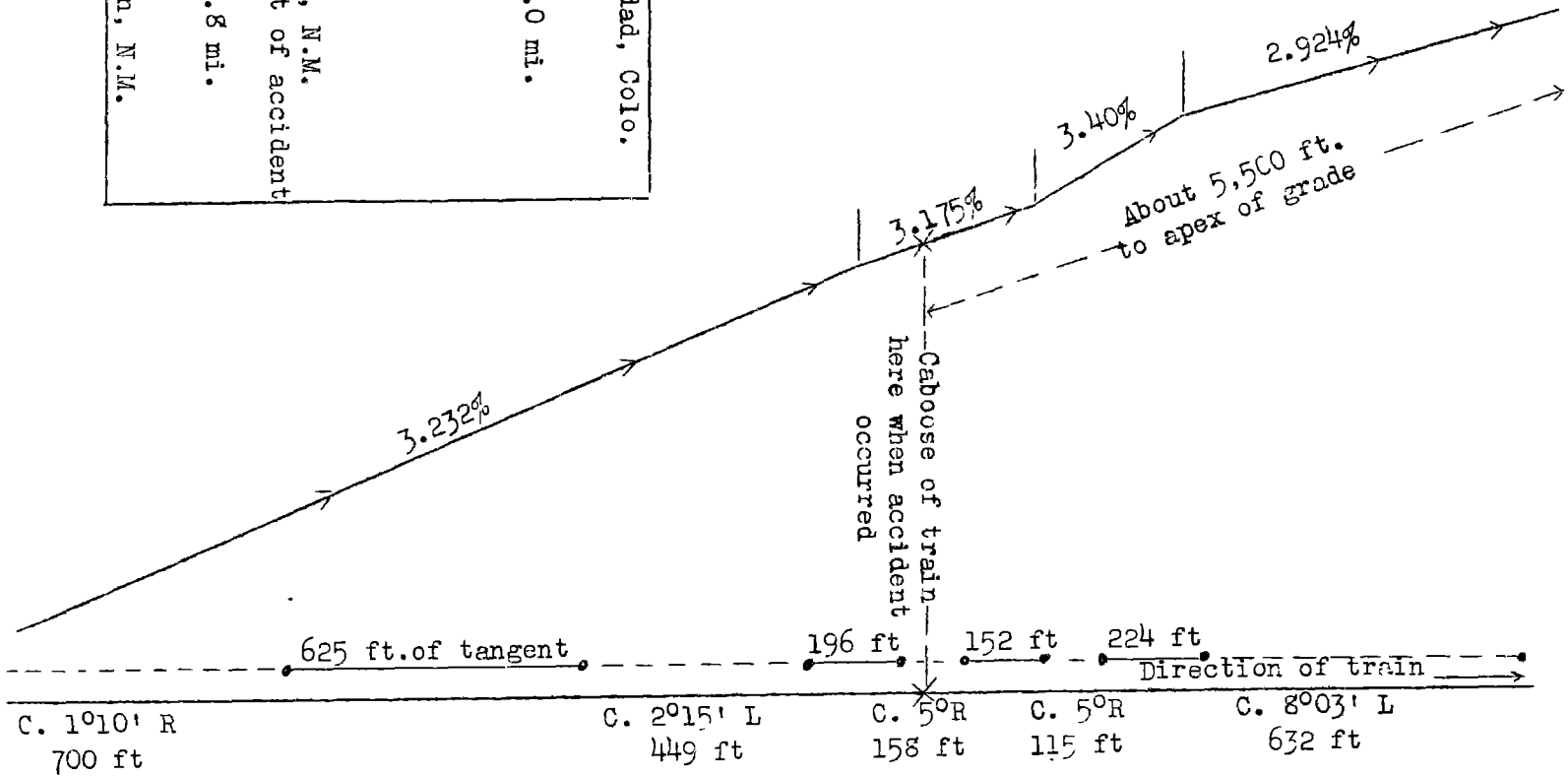
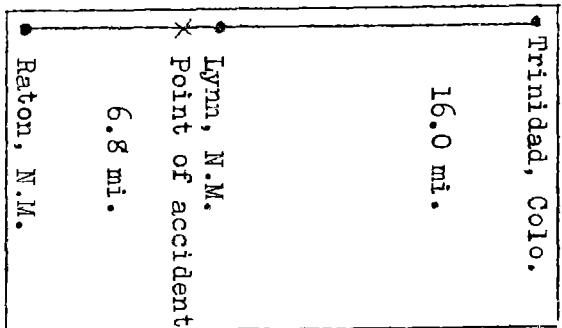
Location and method of operation

This accident occurred on that part of the First District of the New Mexico Division which extends between Raton, N. Mex., and Trinidad, Colo., a distance of 22.8 miles; in the immediate vicinity of the point of accident this is a double-track line over which trains are operated, upon receipt of proper clearance card, by an automatic block-signal system whose indications supersede time table superiority. The accident occurred as the train was approaching the tower at Lynn, located about 1,900 feet west of the summit of Raton Mountain, at which time the rear end was just west of the west switch at Lynn. In this vicinity the track is composed of numerous short curves and tangents, the curves varying from $1^{\circ}10'$ to $8^{\circ}03'$, the caboose being on a 5° curve to the right when the accident occurred. The grade for east-bound trains is ascending for several miles, and varies from 2.924 to 3.40 percent over that portion of track occupied by the train when the break-in-two occurred.

The weather was clear at the time of the accident, which occurred about 11:45 a.m.

Description

East-bound freight train No. 46-Y consisted of engines 3872 and 3816, 36 loaded and 22 empty cars, an all-steel caboose, and with pusher engines 3820 and 915 coupled behind the caboose; the train was in charge of Conductor Cole and Engineman Martinson, with Engineman Kruger on helper engine 3872, and Enginemen Perkins and Leary, respectively, on the pusher engines. This train left Raton, 6.8 miles west of Lynn, at 11:10 a.m., and was approaching the top of the grade at a speed



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estimated to have been between 10 and 15 miles per hour when the train parted, due to a broken knuckle in the coupler at the rear end of the second car, causing the air brakes to apply in emergency.

The pusher engines forced the body of the caboose upward and threw it to the right of the tracks, and then shoved its trucks under the car ahead; the front end of pusher engine 3820 was slightly damaged. In addition to the second car, damage was sustained by eight other cars, including a broken branch pipe on the thirty sixth car while the auxiliary reservoir was broken off and the branch pipe cracked on the thirty-eighth car. The employee injured was the rear brakeman, who was riding on the rear end of the caboose at the time of the accident.

Summary of evidence

None of the members of the crew was aware of anything wrong until the break-in-two occurred, the front portion of the train, consisting of the helper engine, road engine, and first two cars, stopping about two car lengths ahead of the remainder of the train. In regard to the two cars which showed damaged air-brake equipment after the accident, Engineman Kruger, of the helper engine 3872, said that in the event the accident had been caused as a result of the train line having become broken somewhere back in the train, an entirely different action would have occurred from that which happens when a break-in-two occurs, in that a little jerk would have taken place before the engine started to run away from the train; in his opinion the accident was caused by the broken knuckle in the coupler at the west end of the second car. These latter statements were corroborated by Engineman Martinson, of road engine 3816. Engineman Martinson also stated that nothing unusual transpired while going up the mountain until the break-in-two occurred, there having been no rough handling of the train or slipping of the engine, although he did use sand, saying that at the point where the accident occurred it was one of the hardest pulls on the grade. Engineman Martinson did not notice any jerk just before the accident occurred.

Fireman Woodworth, of engine 3816, who was a promoted man, said that the train handled smoothly, with no running in of slack or slipping of driving wheels, and that a good run was made until the break-in-two occurred. After the accident he closed the angle cock at the rear of the second car and obtained a spare knuckle to use in replacing the broken knuckle, which in his opinion was the cause of the accident.

Head Brakeman Hogan was riding on about the eighteenth or twentieth car from the head end, Brakeman Hand was on about the forty-fifth car, Conductor Cole was at his desk in the caboose, and Rear Brakeman Middlesworth was riding outside on the rear end of the caboose when the accident occurred. The rear brakeman was injured and no statement was obtained from him, but the statements of these other employees were to the effect that there was no rough handling of the train or slipping of any of the engines, and no unusual slack action. They estimated the speed to have been between 10 and 12 miles per hour. Conductor Cole said that the air brakes were tested at Raton and were cut through on the pusher engines; in his opinion the accident was caused by the knuckle breaking on the second car; in the event the accident had been caused by a broken train line near the rear end the emergency application would have taken effect on the cars in the rear portion of the train first, instead of on the cars in the forward portion, which seemed to him to have been the case in this instance. He said that the brakes did not apply on the rear end of the train until after the crash. Head Brakeman Hogan said that from his position on the train he was reasonably sure that the emergency application started at the head end of the train, saying that he could hear it coming back.

Enginemen Perkins and Leary and Firemen Spencer and Gibbon, of pusher engines 3820 and 915, said the air was cut through and in working order on their engines, and that at the time of the accident both pusher engines were working steam to full capacity. The first knowledge Engineman Perkins had of anything wrong was when he heard a noise and saw the caboose go up in the air.

Before it departed from Raton, Car Inspectors O'Connor, Simons and Rogers made a terminal test of the air brakes on the entire train, including the pusher engines, and they said the brakes worked properly.

Examination of the broken knuckle in the Simplex coupler at the west or rear end of the second car in the train, AT&SF stock 55333, disclosed a clean, fresh break through the knuckle-pin hole and the metal appeared sound. Back of this break there was a fracture leading into the core cavity of the knuckle, and a small portion of this partial fracture had some appearance of being old.

Conclusions

This accident was caused by Train No. 46-Y breaking-in-two between the second and third cars, due to the breaking of the coupler knuckle at the rear end of the second car.

According to the evidence, an even, steady run had been made up the mountain grade with the helper and road engines at the front end of the train and the two pusher engines at the rear end working steam to full capacity when the break-in-two occurred at the forward end of the train, causing the air brakes to apply in emergency, and before the brakes applied on the cars and engines at the rear end of the train the pusher engines plowed into the all-steel caboose, lifted it off its trucks and threw it from the track. Prior to the accident no rough handling of the train or unusual slack action had been noticed, nor any slipping of the engines. Examination of the coupler at the rear of the second car disclosed a clean, fresh break through the knuckle-pin hole; the reason for the failure of the knuckle was not determined.

Respectfully submitted,

W. J. PATTERSON,

Director.