

IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE
BALTIMORE & OHIO CHICAGO TERMINAL RAILROAD NEAR BLUE
ISLAND, ILL., ON AUGUST 20, 1921.

September 24, 1921

On August 20, 1921, there was a derailment of a freight train on the Baltimore & Ohio Chicago Terminal Railroad near Blue Island, Ill., which resulted in the death of 1 employee and the injury of 2 employees. After investigation of this accident, the Chief of the Bureau of Safety reports as follows:

Location and method of operation.

This accident occurred on that part of the Second District which extends between Tracy Ave. and Harvey Jct., a distance of 4.5 miles. This is a single-track line over which trains are operated by train orders, there are no scheduled trains and no block-signal system is in use. The accident occurred a few feet north of 122nd Street. Approaching the point of accident from the north the track is tangent for about 2,000 feet, the grade is slightly descending to within 100 feet of the point of accident, beyond which it is 0.54 per cent descending. The track is laid with 80-pound rails, 33 feet in length, with 18 oak and cedar ties to the rail-length, tie-plated, and ballasted with about 2 feet of gravel. The weather was clear at the time of the accident, which occurred at about 3.53 p.m.

Description.

Southbound freight train extra 2931 consisted of 8 cars and a caboose, hauled by engine 2931, which was being operated backing up, and was in charge of Conductor Armstrong and Engineman Mulvey. It departed from Tracy Ave. at 5 40 p.m. and was derailed while traveling at a speed estimated to have been 18 or 20 miles an hour.

Engine 2931 derailed and turned over to the left on its right side, while the tender derailed to the right, coming to rest 178 feet beyond the first marks of derailment. The first four cars were also derailed and considerably damaged. The employee killed was the engineman.

Summary of evidence.

Fireman Kellman was on his seat box when he noticed the tender swaying more than usual, and after it had traveled about a car-length it derailed to the right. He did not know whether the engineman shut off steam or applied the brakes at the time of the accident. His opinion as to the riding qualities of the engine was that there was nothing about which complaint could be made, and he said that on two previous trips on this day over this portion of the road nothing unusual had been noticed. Fireman Kellman estimated the speed to have been about 20 miles an hour, while Conductor Armstrong and Brakenan Nolan, both

of whom were in the caboose, thought it was 18 or 20 miles an hour. Conductor Armstrong also said that he made an examination of the track but was unable to find anything that could have caused the accident.

General Foreman of Shops Rosenberg reached the scene of the accident more than 2 hours after its occurrence and while he made an examination of the track and engine, he expressed no opinion as to the cause of the accident.

Assistant Road Foreman of Engines Carlson had ridden on engine 2931 all day on August 18, on account of difficulty it had experienced in steaming properly. He said that during the course of the day he made a thorough examination of the engine and tender, and found them to be in good condition in every respect with the possible exception of signs of slight wear on the R-3 tender-truck wheel; this was not worn enough to warrant calling it to the attention of the roundhouse force. Engine 2931 had been inspected before being placed in service on the morning of the accident and at that time was found to be in good condition. It is of the 2-8-0 type, with a weight on the driving wheels of 192,000 pounds, and the tender has a capacity for 15 tons of coal and 7,000 gallons of water.

Examination of the track showed that the first mark of derailment was a flange mark on the right rail, this mark leading diagonally across the rail toward the outside for a distance of 24 feet. This was followed by wheel

marks on seven ties, beyond which point the track was torn up for a distance of 140 feet. It was also found that at each of the first three joints on the left side of the track immediately preceding the point of accident, the ballast had been washed from the sides and also from under the ties, so that it was possible while standing on the ends of the ties to move them up and down to a slight extent. The investigation in this connection developed that it had rained unusually hard in this vicinity during the preceding night. Section Foreman Stevo, however, said that on the day of the accident a track walker had been over the track and reported it to be in good condition and that he had never found the track soft, although he said it was slightly so on this particular day on account of the heavy rain.

Assistant Engineer of Maintenance M. D. Carothers, who reached the scene of the accident about 2 hours after its occurrence, said he found a few joints "pumping"; but did not consider them responsible for the accident. He said the drainage was good and that no difficulty had ever been experienced with the track in this vicinity, and that his spring inspection showed the renewals to be all the repairs necessary. He measured the gauge and surface for a distance of about 300 feet immediately preceding the point of accident. These measurements showed that at one point 107 feet from the point of derailment the right rail

was 13/16 inch lower than the left rail, with this exception, none of the variations in surface exceeded 5/8 inch. The gauge varied from 1/16 to 1/2 inch wide. While Mr. Carothers said he did not notice any particular condition in connection with the track which might have had anything to do with the cause of the accident, he afterwards said that he thought the existing track conditions, coupled with high speed, were responsible for the accident, adding that he thought the track was safe for an engine backing up at a speed of 20 miles an hour.

The distance from Tracy Ave. to the point of accident is 2.52 miles, and the best estimate is that the total time consumed by extra 2931 in making this movement was about 7 minutes, or at an average speed of 21.6 miles an hour.

Conclusions.

This accident is believed to have been caused by uneven and insecure track, coupled with the rate of speed at which the train was moving with the engine backing up.

There was some unevenness of the track, and it is believed that the washing out of the ballast at joints so that it was possible to move the ties up and down permitted the tender to rock to such an extent as to cause one of the truck wheels to mount the rail and result in the derailment of the train. The condition of the wreckage, coupled with the fact that the train had maintained

an average speed of 31.6 miles an hour and had proceeded for some distance on a slightly descending grade with the engine working steam, indicated that the speed at the time of the derailment probably was in excess of that estimated by the members of the crew. There is, however, no rule restricting the speed of trains hauled by engines backing up, and the only restriction of any kind applicable to the territory within which this accident occurred is one requiring trains to move under full control prepared to stop within range of vision between 119th Street and Blue Island Station.

The conductor and engineman in charge of this train were experienced men. At the time of the accident all of the members of the crew had been on duty about 5 hours, after 11 hours or more off duty.