

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE MISSOURI PACIFIC RAILROAD NEAR MILO, MO., ON DECEMBER 12, 1925.

January 30, 1926.

To the Commission:

On December 12, 1925, there was a derailment of a passenger train on the Missouri Pacific Railroad near Milo, Mo., resulting in the death of two employees and the injury of six passengers.

Location and method of operation

This accident occurred on the Pleasant Hill District of the Joplin Division, extending between Pleasant Hill and Joplin, Mo., a distance of 133.03 miles; in the vicinity of the point of accident this is a single-track line over which trains are operated by time-table, train orders, and a manual block-signal system. The accident occurred 2.31 miles east of Milo, approaching this point from the west the track is tangent for a considerable distance, while the grade averages 0.32 per cent descending for eastbound trains.

The track is laid with 85-pound rails, 33 feet in length, with 20 ties to the rail-length, partly tie-plated, single-spiked, and ballasted with chats to a depth of about 12 inches. Under the rules the speed of passenger trains being hauled by a freight engine, which was the case in this instance, is limited to 35 miles an hour.

The weather was clear at the time of the accident, which occurred at about 10.04 p.m.

Description

Eastbound passenger train No. 318 consisted of one baggage car, two coaches, and two Pullman sleeping cars, in the order named, hauled by engine 1208, and was in charge of Conductor Prosser and Engineeran Moore. This train left Lamar, 18.17 miles west of Milo and the last open office, at 9.29 p.m., according to the train sheet, four minutes late, and on reaching a point 2.31 miles east of Milo was derailed while traveling at a speed estimated to have been between 25 and 35 miles an hour.

The entire train was derailed to the left and came to rest practically parallel with the track. Engine 1208 was on its left side, considerably damaged, 558 feet from the initial point of derailment. With the exception of the first car in the train, which also came to rest on its left side, the cars remained practically upright, the rear end of the last car being 107 feet beyond the point of derailment. The employees killed were the engineman and fireman.

Summary of evidence

Conductor Prosser stated that after departing from Lamar a stop was made at Sheldon, 11.39 miles beyond, to discharge and take on passengers, about two minutes being consumed in stopping and regaining speed. He was riding in the second car from the engine at the time of the accident, which he said occurred at about 10.04 p.m., the train being approximately eight minutes late and moving at a speed he estimated to have been between 30 and 35 miles an hour. He noticed nothing unusual with the riding of the train just prior to the accident, and did not know whether or not the air brakes were applied just before it occurred. Conductor Prosser did not think that the speed was excessive and was of the opinion the accident was caused by spread rails. The statements of Brakeman McKidly practically corroborated those of Conductor Prosser, with the exception that he estimated the speed to have been between 25 and 30 miles an hour at the time of the accident; he further stated that in an ante mortem statement Fireman Young told him that he did not know what happened and that Engineman Moore applied the air brakes in emergency just before the engine overturned. The statements of Train Porter Kynard developed nothing additional of importance.

Careful inspection of the equipment, and examination and measurement of the track were made within a few hours afterwards by Trainmaster Hobbs, Division Engineer McFadden, Roadmaster Lyberger, Roundhouse Foreman Kessler, Master Mechanic Winberg, and Section Foreman Donnel, failing to disclose any defect that they thought would have caused the accident, provided the train was not exceeding the authorized rate of speed. Division Engineer McFadden also stated, however, that while the alinement of the track was in good condition, the cross levels which were taken disclosed that the surface was not maintained in first-class condition. Roadmaster Lyberger also stated that he rode over this particular piece of track on engine 1208,

the engine involved, at the time it hauled train No. 215, less than 16 hours prior to the derailment, and as was his custom he stood behind the engineman, looking for irregular track conditions that would affect the riding qualities of the engine, but noticed nothing unusual. He said that in his opinion a variation of $1 \frac{3}{8}$ inches in surface would only cause an engine, traveling at a speed of from 30 to 35 miles an hour, to roll to some extent. Section Foreman Donnel said the track was surfaced about December 1, and also said that the obtaining of proper drainage gave him considerable trouble.

Examination of the track disclosed the first mark of derailment to have been on the outside of the ball of the north rail, apparently caused by contact with the inside of the flange of a driving wheel. This mark continued along the side of this rail for about 3 feet, at which point flange marks appeared on the base of the rail, ties, and spikes, for a considerable distance, clearly indicating that a wheel had passed over them; within this distance spikes and angle-bar bolt heads and nuts were sheared and broken. The first mark of derailment on the opposite side of the track was a flange mark on a tie, about 5 inches from the gauge side of the south rail and about 8 feet east of the initial mark of derailment on the opposite rail. These flange marks continued for a distance of about 132 feet, beyond which point the track was entirely torn up for some distance.

Measurements of the track taken at every rail joint, the joints being staggered, for a distance of 36 rail joints west of the point of derailment, beginning at the first rail joint west of the initial point of derailment, showed that the gauge was fairly uniform. Measurements of the surface showed that at the first joint west of the point of derailment the right rail was $\frac{1}{4}$ inch low; at the second joint the left rail was $\frac{1}{4}$ inch low, at the third, fourth and fifth joints the right rail was low, the variations being $\frac{3}{4}$ inch, $1 \frac{3}{8}$ inches, and $\frac{3}{8}$ inch, respectively, while west of this point the left rail was low at seven consecutive points.

Engine 1208 is of the 2-8-2 type, having a total weight, engine and tender loaded, of 434,000 pounds. After the engine had been brought to the Nevada shops a thorough inspection was made, which included the taking of lateral measurements, gauging of flanges and treads, and trammings and gauging all wheels. This inspection showed the mechanical condition of the engine to be good and nothing was found that would have caused or contributed to the accident. Engine 1208 received class 1 repairs in May, 1925, and had traveled about 14,500 miles up to the time of the derailment.

According to the train sheet train No. 218 left Lamar, 20.18 miles west of the point of derailment at 9.29 p.m., and Conductor Prosser said that a stop was made at Sheldon, about two minutes being consumed in stopping and regaining speed, if these figures are correct, the train moved at an average speed of about 37 miles an hour between Lamar and the point of accident.

Conclusions

The cause of this accident was not definitely ascertained.

Examination of the equipment failed to disclose the presence of anything which it was thought could have contributed to the occurrence of the accident. Examination of the track, however, showed that the surface was quite uneven, there being one point a short distance west of the point of accident where the right rail was $1\frac{3}{8}$ inches lower than the left rail, while just east of this point the right rail was $\frac{1}{4}$ inch higher than the left rail. With the exception of the surface, the track seemed to be maintained in fairly good condition, although the section foreman said considerable trouble was experienced in obtaining proper drainage, and at the time of the accident he had only one man to assist him in maintaining $5\frac{1}{4}$ miles of main track and $2\frac{3}{4}$ miles of side track.

The marks on the track, coupled with those on the driving wheels of the engine, indicated the probability that the forward pair of driving wheels were the first wheels to be derailed, and while it was not definitely determined that such was the case the derailment of these wheels may have been due to the uneven surface and the fact that the train was being operated at a speed close to the limit for this type of engine, if in fact that limit was not being exceeded to some extent, with the result that the engine rocked to such an extent as to result in the derailment.

All the employees involved were experienced men, and at the time of the accident none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. BOELAND

Director.