

September 7, 1918.

In Re: Investigation of accident which occurred upon the line of the Missouri, Kansas & Texas Railway Company of Texas, near Lockhart, Texas, on July 30, 1918.

On July 30, 1918, there was a derailment of a freight train on the Missouri, Kansas & Texas Railway Company of Texas near Lockhart, Texas, which resulted in the death of 2 employees and the injury of 1 employee. After investigation of this accident, the Chief of the Division of Safety reports as follows:

Northbound train No. 98, a local freight train running between San Antonio, Texas, and Smithville, Texas, at the time of the derailment consisted of locomotive 497, 29 empty cars, 6 loaded cars and a caboose, in charge of Conductor Nixon and Enginemen Hayden. This train left San Antonio at 6:30 a. m. on July 30th, arrived at Lockhart at 7:35 p. m., left Lockhart at about 8.00 p. m., and at about 8.07 p. m. was derailed at a point .93 miles north of Lockhart while running at a speed variously estimated to have been from 15 to 40 miles per hour.

The derailment occurred at a public road crossing, known as "Bell Crossing," which is located on the run-off of a four-degree curve leading to the left, and on a descending grade of about 1% for northbound trains, the superelevation on the curve being about 4 inches. After derailment the train ran for a distance of 306 feet, the locomotive turned over on

its left side, killing the fireman and head brakeman, and the track was torn up for a distance of about 200 feet. The tender turned over with its bottom side up parallel to the track and behind the locomotive, while eleven cars were derailed and piled up within a space of 120 feet. Three other cars were derailed but not seriously damaged. The weather at the time was clear.

The division on which this accident occurred is a single-track line, operated by train orders and time-card rights. The track is laid with 68-pound second hand steel rails, 30 and 33 feet in length, with from 17 to 20 pine ties under each rail. The track is not uniformly ballasted but the four-degree curve is ballasted with about 6 inches of gravel up to within about 70 feet of the crossing. At some prior time the ballast had been removed from this 70 feet of track for the purpose of putting in new ballast. The track is fairly well maintained but is uneven on account of the second hand rails being surface and line bent. There was also a low joint on the left hand rail about 28 feet south of the point of derailment which was raised one inch after the accident.

The initial derailment probably occurred to the front tender trucks, which were derailed on the right hand side of the track, which in turn derailed the locomotive. An examination of the track at the crossing showed a flange mark on the ball of the right hand rail about 18 inches in length, this mark passing

from the center to the right hand edge of the rail. The crossing was filled with dirt, and the constant use of it by pedestrians, vehicles and the wrecking crew obliterated all flange or wheel marks until the north side of the crossing was reached, from which point the flange marks on the ties were plainly visible. The wheels apparently continued to diverge to the right after derailment, until a bridge, 50 feet north of the crossing, was reached, and on this bridge wheel marks were found about the center of the track, indicating that the right wheels were off the ties on the right side, destroying the right guard rail and bunching and breaking the ties in the center and derailing the following cars. The front tender truck frame with one pair of wheels was found about the middle of the track opposite the tender and the second pair of wheels was torn loose from the truck and was found on the right hand side of the track and slightly to the rear of the truck frame. The second pair of trucks lay to the right across the right rail. The truck center pins on the tender were bent to the right, indicating that some force from the left had pulled the tender frame from the trucks. The locomotive and tender were carefully examined and their wheels gauged, but nothing was found that could have contributed to the derailment.

Engineman Hayden of train No. 98 stated that approaching Bell Crossing he had a clear view of the crossing and could see no obstruction on it. He stated that his

train ran over the crossing at a speed of 12 or 15 miles per hour, and from the swaying of the locomotive he thought it must have struck some obstruction on the crossing or a low joint. The locomotive made four or five lunges and then straightened up. He stated further that the first thing he noticed as being derailed was the first car in the train and that the tender was on the ties at almost the same time; his engine may have been derailed but if so he did not notice it until the engine turned over. He could not remember whether or not he applied the air brakes in emergency at the time of the derailment.

Conductor Nixon of train No. 95 stated that when his train was derailed he was riding in the caboose busily writing and did not notice the speed of the train. Had the speed been excessive he is certain he would have noticed it. The first intimation he had of the derailment was when the caboose seemed to strike something and begin to rock and rebound. Immediately after the accident he made an examination of the track but was unable to find anything that could have caused the derailment.

Roadmaster Hogan stated that he made an examination of the track the next morning and found the line, surface and gauge of the track south of the crossing to be good. He stated that he found the superelevation of the track at the point of derailment to be 2-3/4 inches, and at a point a short

distance south it was 4 inches; the run-off was rather abrupt but had the proper elevation. The first joint south of the road crossing on the left hand side was raised one inch after the accident, and in his opinion the general condition of the track was good, there being a few irregularities such as bent rails. He thought the speed of train No. 98 must have been 30 or 35 miles per hour and that the derailment was caused by an obstruction on the track.

Resident Engineer Sharp stated that he made an examination of the track the following morning and could find nothing that could have caused the derailment. He stated that "There was a slight change in superelevation of the track beginning at a point just south of the crossing and extending through the crossing, beyond this point over the crossing the track was torn up and could tell nothing about it." He further stated that the speed of the train must have been about 40 miles per hour and that it was his opinion that the derailment was caused by an obstruction in the flange way on the crossing and by high speed.

Brakeman Ritchey of train No. 96 stated that he made an examination of the track immediately after the derailment but could find nothing which should have caused the accident.

Brakeman Dougherty of train No. 98 stated that the speed of his train at the time of the derailment was 15 or 20 miles per hour.

Superintendent Thanheiser stated that from the appearance of the wreck the speed of train No. 98 must have

been 30 miles per hour, while Road Foreman of Engines Hallman thought the speed must have been 25 or 30 miles per hour.

In view of the conflict in the evidence and the fact that the track was badly torn up from a point a few feet north of the initial point of derailment to the place where the train came to rest, it is impossible definitely to determine the cause of this derailment or with certainty which part of the train was the first to be derailed. From the position of the tender trucks after derailment and the general condition of the wreck, it is believed that the front tender trucks were the first to be derailed, and that the derailment was caused by the low joint just south of the road crossing, the uneven condition of the track and the speed of the train.

Between Smithville and Lockhart there is a speed restriction of 20 miles per hour for freight trains, and while Enginemen Hayden states that the speed of his train was about 12 or 15 miles per hour at the time of the derailment, in view of the fact that eleven cars were piled up within a space of 120 feet and the distance the train ran after derailment, it is probable that the speed was in excess of 15 miles per hour.

All of the employees involved in this accident had good records and none had been on duty in violation of the hours of service law.