

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN
ACCIDENT ON THE TEXAS AND PACIFIC RAILWAY NEAR GLADEWATER,
TEXAS, ON JANUARY 13, 1933.

January 13, 1933.

To the Commission:

On January 13, 1933, there was a derailment of a passenger train on the Texas and Pacific Railway near Gladewater, Texas, which resulted in the injury of 17 passengers, 1 Pullman conductor, and 3 employees.

Location and method of operation

This accident occurred on the Mineola Sub-Division of the Fort Worth Division, which extends between Texarkana and Mineola Yard, Texas, a distance of 138.1 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 an automatic block-signal system. The accident occurred approximately 2½ miles west of Gladewater, approaching this point from the east, the track is tangent for a distance of 8,317 feet, while the grade is descending for about 3,100 feet to the approximate point of accident, followed by an ascending grade.

The track is laid with 110-pound rails, 39 feet in length, with an average of 22 ties to the rail-length, fully tie-plated, single-spiked, and is ballasted with gravel to a depth of about 15 inches, the track is well maintained.

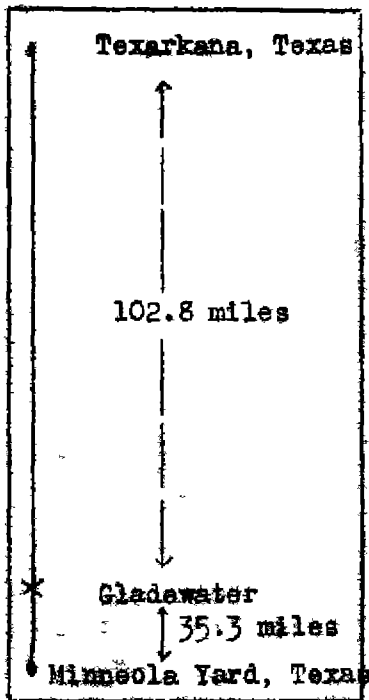
The weather was clear at the time of the accident, which occurred about 5:26 A.M.

Description.

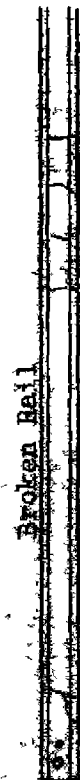
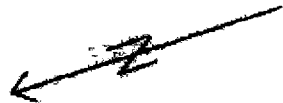
Westbound passenger train No. 15 consisted of two baggage cars, one baggage and express car, one coach, one chair car, one Pullman sleeping car, one dining car, and one Pullman sleeping car, all of steel construction and in the order named, hauled by engine 717, and was in charge of Conductor Wilkins and Engineman Davis. The train departed from Texarkana 102.8 miles east of Gladewater, at 3:20 A.M., on time, passed Gladewater at 5:20 A.M., 17 minutes late, and shortly afterwards was derailed by a broken rail while traveling at a speed estimated to have been between 50 and 60 miles per hour.

The engine, tender and first car remained on the track and stopped between 300 and 400 yards beyond the balance of the train. The rest of the cars were derailed to the north and stopped practically in line with the track with the rear car 105 feet west of the initial point of derailment; the three rear cars were practically on their right sides. The seventh car was badly damaged as a result of striking the concrete base

-P.C.



Inv. No. 1805
 Texas & Pacific Railway
 Gladewater, Texas
 January 13, 1913.



20' 10"

1' 5 1/2"

1' 4 5/8"

1' 7"

11' 11 3/8"

1' 9 1/2"

of a block signal. The employees injured were five dining-car employees and one water-service employee.

Summary of Evidence.

Engineman Davis stated that five cars were set out and one car picked up while his train was at Longview Junction, and then the brakes were tested by car inspectors. He made a running test of the brakes after leaving that station and experienced no difficulty in operating the train en route. There was no unusual riding condition about the engine, all block signals were displaying clear indications, and his first intimation of anything wrong was when the train suddenly surged; the engine and first car stopped approximately 300 or 400 yards beyond the derailed equipment. He estimated the speed at the time of the accident as having been between 55 and 60 miles per hour. He returned with the forward portion of the train to the derailed equipment and after ascertaining that no one was seriously injured he inspected the track and discovered a small section of rail broken out of the track and lying about 15 or 20 feet from the track.

The statements of Fireman Behymer substantiated those of Engineman Davis as to the signal indications displayed while the train approached the point of accident and as to the speed of the train at the time of the accident. He also felt no unusual motion of the engine when it passed over the rail which was later found to have broken.

Conductor Wilkins was riding in the fifth car of the train when the accident occurred, and as soon as the train stopped he got off and saw that all of the cars were derailed except the first car and the engine. Upon examining the track he found that a rail on the north side of the track had failed, there was one piece still in line with the track, while another piece was about 10 or 12 feet from the north side of the track.

Members of the train and engine crews of eastbound freight train extra 660, which passed the point of accident about 4.45 A.M., noticed no indication of a broken rail or other defect in the track. Conductor Snipp said that while his train was entering the passing track at Gladewater the westbound automatic block-signal at the west end of Gladewater changed to display a green indication after the caboose passed it, and the light in the signal went out after the train cleared the main track, the signal being of the approach-lighting type, thus indicating that the track was intact at that time.

During the afternoon of January 12 Signal Maintainer Whitehead rode over the track in the vicinity of the point of accident watching the track very closely for broken bond wires, and did not notice anything wrong with the track. Signal Supervisor Belvin inspected the track after the accident and, in his opinion, the nature of the broken rail would have caused the automatic-block signals to indicate stop had the break occurred prior to

the arrival of train No. 15. He also inspected the signals governing that particular section of track and found them to be functioning perfectly.

Section Foreman Tallent, on whose section the accident occurred, passed over his section on January 12 but did not find anything wrong with the track in the vicinity of the point of accident. He examined the broken rail after the accident and at the point where he thought it first failed there was a transverse fissure about $1\frac{1}{4}$ inches in diameter.

General Roadmaster Gamble stated that the rail which failed was rolled in December, 1926, and laid in the track in January, 1927. It was located on the north side of the track and was broken in six pieces, the first fracture being 20 feet 10 inches from the receiving end of the rail. This end of the rail remained intact but from this point westward the rail was torn out for some distance, while the marks on the ties showed plainly that the derailment occurred at this point. At the broken end of the portion of rail still remaining in the track there was a transverse fissure approximately $1\frac{1}{4}$ inches in diameter and, in addition, at the ends of three other broken sections there were also transverse fissures, all over 1 inch in diameter. The records indicated that there was no previous transverse-fissure rail failure in that particular heat. He said that had the rail been broken before train No. 15 arrived the signals would have been displaying stop indications, as the temperature was about 28 or 30 degrees and at this temperature the rail would have contracted so that the broken ends could not come in contact with each other, especially as the break was square; also the first break was between the ties so that there was no possibility of a tie plate forming contact for the passage of electric current. From all indications the engine broke the rail and the engine and first car passed safely over it; the second piece, 1 foot 5 inches in length, then became dislodged resulting in the derailment, the other breaks occurring under the derailed cars. According to the sketch of the broken rail furnished in connection with this investigation, the rail broke at a point 20 feet 10 inches from its receiving end; the succeeding three pieces were 1 foot $5\frac{1}{4}$ inches, 1 foot $4\frac{5}{8}$ inches, and 1 foot 9 inches in length, followed by a missing section 11 feet $11\frac{3}{8}$ inches in length, with two pieces making up the leaving portion 1 foot $9\frac{1}{4}$ inches in length. The transverse fissures were evident at the first four points of rupture.

General Car Foreman Akins stated that after the damaged equipment had been moved to the shops he made a thorough examination and discovered that the lead wheel on the north side of the lead truck of the second car in the train had two indentations in the rim at the tread and a slight indentation in the flange which appeared to have been the result of striking some part of the broken rail. He did not find any defects about the equipment that could have contributed to the cause of the accident.

An examination of the broken rail made by the Commission's inspectors disclosed that at the first point of rupture, the transverse fissure was about 1 1/8 inches in depth and 1 3/8 inches in length which extended towards the outside of the head of the rail. The outline of the top of the fissure was discolored, indicating that it had reached the surface.

Conclusions

This accident was caused by a broken rail.

According to the evidence there was no indication of a broken rail or other defect at the time an eastbound train passed the point of accident about 4:45 A.M., while the statements of the engine crew of train No. 15 were to the effect that all signals were displaying clear indications as the train approached the point of derailment. In view of these facts, and in view of the further fact that the engine and first car passed over the rail in safety, it would appear that the rail must have been intact until train No. 15 reached it. An examination of the rail subsequent to the accident revealed that it was broken into several pieces, and four of the broken ends showed transverse fissures, all of them being more than 1 inch in diameter. One of these transverse fissures was 20 feet 10 inches from the receiving end of the rail, and from the marks on the ties from this point westward it is evident that the rail first failed at this point, resulting in the derailment.

Respectfully submitted,

W. P. BORLAND,

Director.

