

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3355
GULF, COLORADO AND SANTA FE RAILWAY COMPANY
IN RE ACCIDENT
NEAR LOMETA, TEX., ON
AUGUST 31, 1950

SUMMARY

Date: August 31, 1950

Railroad: Gulf, Colorado and Santa Fe

Location: Lometa, Tex.

Kind of accident: Derailment

Train involved: Passenger

Train number: 76

Engine numbers: Diesel-electric units
301, 301A and 301B

Consist: 3 cars

Estimated speed: 60 m. p. h.

Operation: Timetable, train orders and
automatic block-signal system

Track: Single; tangent; 0.4 percent
descending grade northward

Weather: Clear

Time: 2:50 a. m.

Casualties: 48 injured

Cause: Broken joint bars

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3855

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS
UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

GULF, COLORADO AND SANTA FE RAILWAY COMPANY

October 18, 1950

Accident near Lometa, Tex., on August 31, 1950, caused
by broken joint bars.

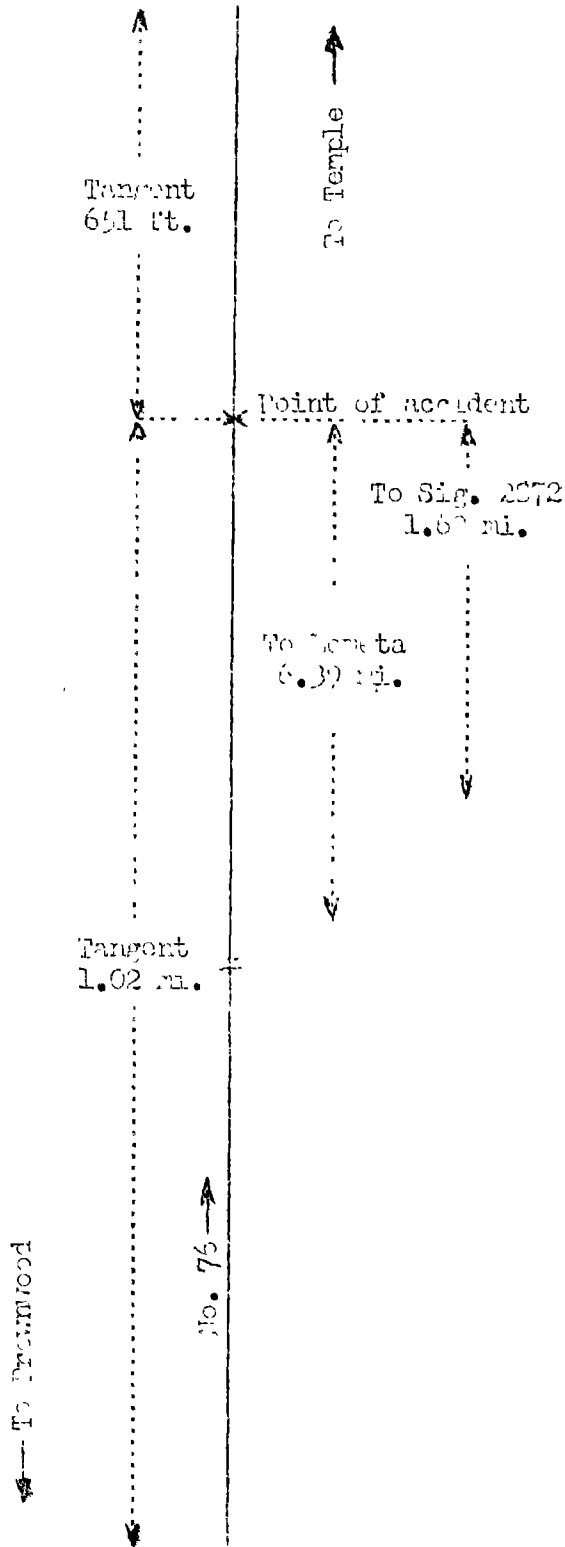
REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On August 31, 1950, there was a derailment of a passenger train on the Gulf, Colorado and Santa Fe Railway near Lometa, Tex., which resulted in the injury of 37 passengers, 2 Pullman employees, 5 dining-car employees, 1 person carried under contract and 3 train-service employees.

¹
Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.

o Temple, Tex.
67.11 mi.
X Point of accident
6.39 mi.
o Loneta
56.30 mi.
o Brownwood, Tex.



Report No. 3355
 Gulf, Colorado and Santa Fe Railway
 Loneta, Tex.
 August 31, 1950

Location of Accident and Method of Operation

This accident occurred on that part of the Southern Division extending between Brownwood and Temple, Tex., 129.8 miles, a single-track line, over which trains are operated by timetable, train orders and an automatic block-signal system. The accident occurred on the main track at a point 62.69 miles north of Brownwood and 6.39 miles north of the station at Lometa. The track is tangent throughout a distance of 1.02 miles south of the point of accident and 651 feet northward. The grade at the point of accident is 0.4 percent descending northward.

In the vicinity of the point of accident the track is laid on a fill having a maximum height of 8 feet. The track structure consists of 90-pound rail, 39 feet in length, laid new in 1926 on an average of 24 treated ties to the rail length. It is fully tieplated with single-shoulder tieplates, single-spiked, and is provided with 4-hole 24-inch 100-percent joint bars and 4 rail anchors per rail length. It is ballasted with crushed stone to a depth of 8 inches below the bottoms of the ties. The joint bars were manufactured by the Colorado Fuel and Iron Company in October, 1925. They were fastened by four 7/8-inch joint bolts 5-1/8 inches in length.

Automatic signal 2872, governing north-bound movements into the block in which the accident occurred, is located 1.69 miles south of the point of accident. This signal is of the color-light type and displays three aspects. It is continuously lighted.

Instructions to the carrier's maintenance-of-way forces issued September 20, 1940, read in part as follows:

SECTION FOREMEN

* * *

17. They shall be responsible for patrol of their sections in case of emergencies in which the track might be endangered, such as heavy rains, snowstorms, etc.; but except in such emergencies they shall be relieved of the daily track patrol which has herein been assigned to the Track Supervisor.

* * *

Uniform Maintenance Practices - Instructions to Track Supervisors, read in part as follows:

4. Make daily motor car inspection trip over territory and walk track where required for adequate inspection. * * *

* * *

The maximum authorized speed for the train involved was 60 miles per hour.

Description of Accident

No. 76, a north-bound first-class passenger train, consisted of Diesel-electric units 301, 301A and 301B, coupled in multiple-unit control, one baggage car, one mail-baggage car, one coach, one chair car, one dining car, one lounge car and three sleeping cars, in the order named. All cars were of all-steel construction. This train departed from Brownwood at 1:35 a. m., 30 minutes late, passed Lometa, the last open office, at 2:44 a. m., 18 minutes late, passed automatic signal 2372, which indicated Proceed, and while moving at an estimated speed of 60 miles per hour the third to the ninth cars, inclusive, were derailed.

Separations occurred at both ends of the third, fourth and fifth cars. The Diesel-electric units and the first two cars were not derailed and stopped with the front end of the first Diesel-electric unit about 2,000 feet north of the point of derailment. The third car stopped upright and about 600 feet north of the point of accident, with its north end 40 feet and its south end 55 feet west of the track. The fourth and fifth cars stopped practically in line, on their left sides, and behind the third car, with the north end of the fourth car 29 feet west of the track and the south end of the fifth car 33 feet west of the track. The sixth car leaned toward the west at an angle of about 45 degrees, with its north end 36 feet west of the track and its south end 28 feet west of the track. The seventh, eighth, and ninth cars stopped in line, with the north end of the seventh car 28 feet west of the track and the south end of the ninth car 4 feet west of the track. The seventh car leaned to the west at an angle of about 10 degrees and the eighth car leaned to the west at an angle of about 5 degrees. The third to the sixth cars, inclusive, were badly damaged, and the seventh, eighth and ninth cars were slightly damaged.

The conductor, the brakeman and the flagman were injured.

The weather was clear at the time of the accident, which occurred about 2:50 a. m.

Discussion

As No. 76 was approaching the point where the accident occurred it was moving on tangent track at an estimated speed of 60 miles per hour, in territory where the maximum authorized speed was 60 miles per hour. The headlight was lighted brightly and the enginemen were maintaining a lookout ahead from their respective positions in the control compartment of the first Diesel-electric unit. The conductor and the brakeman were in the third car and the flagman was in the ninth car. The engine and the cars were riding smoothly, and there was no indication of defective equipment or track, nor of any obstruction having been on the track. The enginemen said that as the train passed over the point where the derailment occurred they heard an unusual noise under the locomotive, and the fireman immediately looked toward the rear of the train. He observed sparks under the train about the third car and called a warning to the engineer, but an emergency application of the brakes occurred as a result of the derailment before the engineer could take action to stop the train.

Examination of the Diesel-electric units and of the undamaged cars of No. 76 after the accident occurred disclosed nothing that could have contributed to the cause of the derailment. A detailed examination of the derailed equipment disclosed heavy indentations on the flange of the left front wheel of the rear truck of the third car, and there were marks on the generator suspension loops and the brake rigging of this truck.

Examination of the track south of the point of accident disclosed no indication of dragging equipment, and there was no appreciable variation in the cross levels and gage. At a point 1.60 miles north of signal 2872 a pair of joint bars in the west rail of the track were broken. Both joint bars were broken through the center and the half portions were rigidly bolted to the respective ends of the rails. The rail north of the break was displaced outward. The end of each rail where the break occurred was badly battered. This condition indicated that trains in both directions had passed over the joint after the break occurred. The batter on the south rail extended horizontally 1-1/2 inches and had a maximum depth of 3/8 inch, and the batter on the north rail extended horizontally 1-3/8 inches and had a maximum depth of 5/8 inch.

Examination of the broken joint bars disclosed an internal fissure in the head of the inside bar approximately $3/4$ inch below the top surface of the bar. This fissure was oval shape, and was about $1-1/8$ inches long and $1/2$ inch wide. It covered approximately 30 percent of the cross sectional area of the head of the bar. It was badly oxidized, and apparently had existed a considerable period of time. The break between the fissure and a point about $1/2$ inch above the toe of the bar was oxidized and apparently was a progressive fracture. There was no fissure in the outside bar but the break was oxidized between a point $3/4$ inch below the top surface of the head and a point about 1 inch above the toe of the bar. The spikes at the leaving end of the south rail had been withdrawn about half their length. The other spikes in this rail to a point about 3 feet from the south end of the rail were partially withdrawn. The track was destroyed throughout a distance of 430 feet north of the broken joint bars.

The joint where the break occurred was located midway between two ties spaced about 8 inches apart. The rails on either side of the joint and several other rails in the vicinity of the point of accident were kinked vertically. This condition caused an upward stress in the ends of the rails at the joint. Apparently the joint bars were broken prior to the arrival of No. 76. Trains in each direction had passed over the broken joint, and spikes on either side of the joint had been progressively loosened. The spikes holding the south end of the north rail were loosened sufficiently to permit the rail to be in contact with the generator suspension loops on the rear truck of the third car. The rail north of the broken joint bars then was displaced and the rear truck of the third car was derailed.

In the vicinity of the point of derailment, the rail-joint bonds are 46 inches in length, and are bonded to the rails at points about 2 inches beyond either end of the joint bars. As a result, the bonds were not broken before the derailment occurred, and signal 2872 indicated Proceed.

The section foreman said he had replaced 15 broken joint bars during the 70-day period preceding the day of the accident. Between 10:15 p. m., August 30, and 12:40 a. m., August 31, two north-bound passenger trains and one south-bound freight train

passed over the point where the accident occurred. None of the members of the crews of these trains observed any unusual condition of the track. The track supervisor inspected the track from a track-motor car about 7 hours 30 minutes before the accident occurred and found no indication of defective track. The rails in this vicinity were tested by a rail-defect detector car on April 21, 1950, at which time no defective condition was indicated.

Cause

It is found that this accident was caused by broken joint bars.

Dated at Washington, D. C., this eighteenth day of October, 1950.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.