INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 3042

THE TEXAS AND PACIFIC RAILWAY COMPANY

REPORT IN RE ACCIDENT

AT LORAINE, TEX., ON

NOVEMBER 27, 1946

SUMMARY

Railroad:	Texas and Pacific
Date:	November 27, 1946
Location:	Loraine, Tex.
Kind of accident:	Derailment
Train involved:	Freight
Train number:	67
Engine number:	611
Consist:	56 cars, 2 cabooses
Estimated speed:	60 m. p. h.
Operation:	Timetable, train orders and automatic block-signal system
Track:	Single; 1° curve; 0.80 percent descending grade westward
Weather:	Clear
Time:	12:30 a. m.
Casualties:	4 killed, 1 injured
Cause:	Shifting of lading in car combined with irregularities in alinement and surface of track

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3042

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

THE TEXAS AND PACIFIC RAILWAY COMPANY

January 14, 1947.

Accident at Loraine, Tex., on November 27, 1946, caused by shifting of lading in car combined with irregularities in alinement and surface of track.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner

On November 27, 1946, there was a derailment of a freight train on the Texas and Pacific Railway at Loraine, Tex., which resulted in the death of four trespassers, and the injury of one trespasser.

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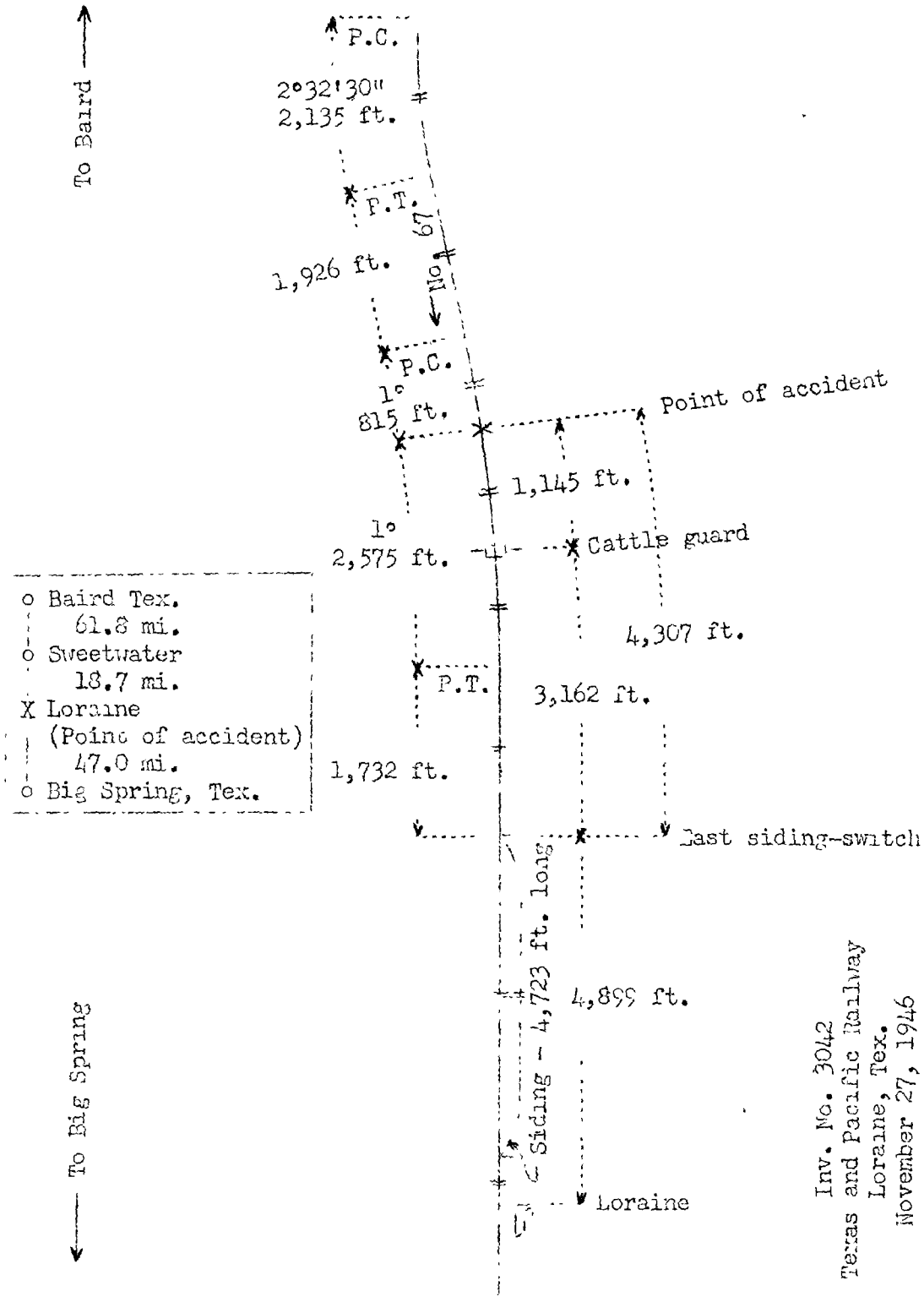
[1] Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Inv. No. 3042
Texas and Pacific Railway
Loraine, Tex.
November 27, 1946

Location of Accident and Method of Operation

This accident occurred on that part of the Western Division extending between Baird and Big Spring, Tex., 127.5 miles, a single-track line, over which trains are operated by timetable, train orders and an automatic block-signal system. At Loraine, 80.5 miles west of Baird, a siding 4,703 feet in length parallels the main track on the south. The east switch of this siding is 4,899 feet east of the station. The accident occurred on the main track 4,307 feet east of the east siding-switch and the general derailment occurred at the switch. From the east there are, in succession, a 2°32'30" curve to the left 2,135 feet in length, a tangent 1,926 feet and a 1° curve to the right 815 feet to the point of accident and 2,575 feet westward, then the main track is tangent 1,732 feet to the east siding-switch and a considerable distance westward. The grade for west-bound trains varies between 0.80 percent and 1.20 percent descending throughout a distance of 1.64 miles immediately east of the point of accident, where it is 0.80 percent descending.

On the curve on which the accident occurred, the track structure consists of 110-pound rail, 39 feet in length, laid new in 1929 on 23 treated ties to the rail length. It is fully tieplated with single-shoulder tieplates, single spiked, except that it is double-spiked inside the high rail at approximately 50 percent of the ties, provided with an average of 4 rail anchors per rail length, and is ballasted with crushed rock to a depth of 12 inches. The maximum superelevation on the curve was 3-1/2 inches, and the gage varied between 4 feet 8-1/8 inches and 4 feet 8-3/4 inches. At the point of accident the superelevation was 3 inches, and the gage was 4 feet 8-5/8 inches.

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

Description of Accident

No. 67, a west-bound second-class freight train, consisting of engine 611, a 2-10-4 type, 56 cars and 2 cabooses, passed Sweetwater, the last open office, 61.8 miles west of Baird, at 11:38 p. m., November 20, 3 hours 3 minutes late, and while it was moving at an estimated speed of 60 miles per hour the front wheels of the front truck of the seventeenth car were derailed to the left at a point 815 feet west of the east end of a 1° curve to the right. These wheels continued in line with the track 1,145 feet westward to the east end of a metal cattle guard where the rear wheels of this truck also were derailed. Then the derailed wheels of the seventeenth car continued in line with the track 3,162 feet westward to

the east siding-switch where the derailment of all the wheels of the fifteenth to the forty-first cars occurred. The forty-first car was slightly damaged, and the remainder of the derailed equipment was badly damaged.

The weather was clear at the time of the accident, which occurred about 12:30 a. m.

The seventeenth car of No. 67, A.T.& S.F. 151016, a box car, is of steel construction. Its light weight, capacity and load limit are, respectively, 57,200, 100,000 and 111,800 pounds. The height above the tops of the rails is 15 feet, the outside width is 9 feet 5 inches over the side plates, and the length over the striking castings is 50 feet 10 inches. The inside length, width, and height of the car are, respectively, 50 feet 6 inches, 9 feet 4 inches and 10 feet 6 inches. The truck centers are spaced 40 feet 10 inches apart. The trucks are provided with roller-type side bearings. At the time of the accident the weight of the lading was 67,100 pounds, and the height of the center of gravity was approximately 91 inches above the top of the rails. The lading consisted of asphalt siding-sheets 12 feet long and 4 feet wide, and extending to a height of about 7 feet above the floor of the car.

Discussion

No. 67 was moving at a speed of about 60 miles per hour on a 1° curve to the right, in territory where the maximum authorized speed was 60 miles per hour, when the front wheels of the front truck of the seventeenth car were derailed to the left at a point 4,307 feet east of the east-siding switch at Loraine. The rear wheels of this truck were derailed to the left about 1,150 feet westward, and both pairs of wheels continued westward in line with the track to the east siding-switch where the general derailment occurred.

Prior to the time of the derailment the engine and cars were riding normally, and there was no indication of defective equipment or track. When the engine was about one mile east of the point where the accident occurred, the engineer placed the throttle lever in drifting position and made a light brake-pipe reduction to control the speed of the train on the descending grade. The headlight was lighted brightly. The brakes had been tested and had functioned properly en route. Soon after the engine entered the curve on which the accident occurred, the front brakeman observed fire flying from the wheels of cars in the front portion of the train, and he immediately informed the engineer. The engineer had just started to take action to stop the train when the brakes were applied in emergency, as a result of the air-valve on the caboose having been opened by the

conductor when the flagman informed him that fire was flying from the wheels of cars in the front portion of the train.

The first mark of derailment was a flange mark on top of the high rail at a point 815 feet west of the east end of the curve. This mark continued diagonally outward across the top of the head of the rail a distance of 17 feet, then flange marks appeared on the ties inside the north rail and outside the south rail throughout a distance of 1,128 feet to a cattle guard. From this point westward 3,162 feet to the east siding-switch, wheel marks appeared on the track structure inside the north rail and outside the south rail. There were scraping marks on the inner surface of the left front wheel of the front truck of the seventeenth car of No. 67 and on the outer surface of the right front wheel. The marks on the rail, on the ties and on the front wheels of the front truck of the seventeenth car indicate that this pair of wheels was the first to become derailed.

The track in this vicinity was last inspected by a member of the track force about 36 hours prior to the time the accident occurred, and no unusual condition was observed. After the accident measurements of the track on the curve disclosed that within a distance of 393 feet immediately east of the point of derailment the superelevation varied between 2-1/2 inches and 3-1/2 inches, and the gage varied between 4 feet 8-1/8 inches and 4 feet 8-3/4 inches.

The investigation disclosed that A.T.& S.F. 151016, the seventeenth car of No. 67, was loaded at Harrero, La., on November 22, and was destined to Los Angeles, Calif. The lading consisted of asphalt siding-sheets 12 feet long and 4 feet wide, and extending about 7 feet in height. The inside width of the car is 9 feet 4 inches. The rules of the Association of American Railroads, prescribing methods for loading, bracing and blocking of lading in closed cars, provide that the lading must be placed in the car and secured in such manner that there will not be more weight on one side of the car than on the other, and that the lading will not shift or roll in transit either horizontally or laterally. Examination after the accident indicated that no bracing or blocking had been provided to prevent shifting of the lading, and marks on the surface of the floor of the car indicated that the lading had shifted laterally approximately 16 inches. There was no defective condition of the car. It was the opinion of officials of the railroad that lateral shifting of the lading caused the body of the car to become overbalanced. It is apparent that this condition, together with the irregularity in surface and alinement of the track, permitted the left front wheel of the

front truck of the car to rise high enough for the flange to mount the rail, and then the flange continued on top of the rail to the point where it dropped outside the rail.

Cause

It is found that this accident was caused by shifting of lading in a car combined with irregularities in alinement and surface of track.

Dated at Washington, D. C., this fourteenth day of January, 1947.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,

Secretary.