INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 3062

SOUTHERN PACIFIC COMPANY

REPORT IN RE ACCIDENT

AT LERDO, CALIF., ON

JANUARY 17, 1947

SUMMARY

Railroad:	Southern Pacific
Date:	January 17, 1947
Location:	Lerdo, Calif.
Kind of accident:	Derailment
Train involved:	Passenger
Train number:	58
Engine number:	4346
Consist:	15 cars
Speed:	65 m. p. h.
Operation:	Timetable, train orders, and automatic block-signal system
Track:	Single; tangent; 0.175 percent descending grade eastward
Weather:	Clear
Time:	2:45 a. m.
Casualties:	8 killed; 86 injured
Cause:	Broken rail

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3062

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

SOUTHERN PACIFIC COMPANY

February 28, 1947

Accident at Lerdo, Calif., on January 17, 1947, caused by a broken rail.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On January 17, 1947, there was a derailment of a passenger train on the line of the Southern Pacific Company at Lerdo, Calif., which resulted in the death of 8 passengers, and the injury of 86 passengers. This accident was investigated in conjunction with representatives of the Railroad Commission of California.

---

[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. 3062
Southern Pacific Company
Lerdo, Calif.
January 17, 1947

Location of Accident and Method of Operation

This accident occurred on that part of the San Joaquin Division extending between Fresno and Bakersfield, Calif., 107.4 miles, a single-track line in the vicinity of the point of accident, over which trains are operated by time-table, train orders and an automatic block-signal system. At Lerdo, 95 miles east of Fresno, an auxiliary track 2,355 feet in length parallels the main track on the south. The west switch of the auxiliary track is 1,322 feet east of the station. The accident occurred on the main track 283 feet west of the west auxiliary-track switch. The main track is tangent throughout a distance of 1.2 miles immediately west of the point of accident and 10.4 miles eastward. The grade is 0.175 percent descending eastward.

The track structure of the main track consists of 110-pound rail, 33 feet in length, rolled in 1923 and laid during February, 1925, on an average of 20 treated ties to the rail length. It is fully tieplated, single-spiked, provided with 4-hole angle bars 24 inches in length, an average of 8 rail anchors per rail length, and is ballasted with slag to a depth of 6 inches.

Automatic signal 3004, governing east-bound movements, is 2,751 feet west of the point of accident. This signal is of the two-arm, semaphore type, and is approach lighted. The rail-bond wires are 52 inches in length and are attached to channel posts in the web of the rails outside the limits of the angle bars.

The maximum authorized speed for the train involved was 65 miles per hour.

Description of Accident

No. 58, an east-bound first-class passenger train, consisted of engine 4346, three baggage cars, five coaches, two sleeping cars, one dining car and four sleeping cars, in the order named. All cars were of steel construction. This train passed Famoso, the last open office, 7.9 miles west of Lerdo, at 2:36 a. m., 19 minutes late, passed signal 3004, which displayed proceed, and while it was moving at an estimated speed of 65 miles per hour the rear truck of the fourth car, the fifth to fourteenth cars, inclusive, and the front truck of the fifteenth car were derailed.

Immediately after the derailment separations occurred between the fourth and fifth cars, between the eighth and ninth cars, between the ninth and tenth cars and between the tenth and eleventh cars. The engine and the first four cars

stopped with the front of the engine 1,758 feet east of the point of derailment. The fifth to eighth cars, inclusive, stopped on their right sides between the main track and the auxiliary track and across the auxiliary track, with the front of the fifth car 9.2 feet south of the main track and 1,074 feet east of the point of derailment and the rear of the eighth car 30.2 feet south of the main track and 802 feet east of the point of derailment. The ninth car stopped on its right side south of the tracks and at an angle of 30 degrees to them, with the front of the car on the auxiliary track and 498 feet east of the point of derailment, and the rear 48 feet south of the main track. The tenth to fifteenth cars, inclusive, stopped practically upright on the roadbed, with the front of the tenth car 452 feet east of the point of derailment. The fifth to twelfth cars, inclusive, were badly damaged, and the fourth, the thirteenth and the fourteenth cars were slightly damaged.

The weather was clear at the time of the accident, which occurred at 2:45 a. m.

The rail at the point of derailment was a 33-foot, 110-pound rail, manufactured by the Tennessee Coal, Iron and Railroad Company in December, 1923, and was laid in the track during February, 1925. The heat number was 62435-A.

Discussion

No. 58 was moving on tangent track at a speed of 65 miles per hour, in territory where the maximum authorized speed for this train was 65 miles per hour, when the derailment occurred. The headlight was lighted brightly, and the enginemen were maintaining a lookout ahead. The baggageman was in the second car, the conductor was in the fourth car, and the front brakeman and the flagman were in the rear car. The last automatic signal west of the point where the derailment occurred displayed proceed for this train. Prior to the time of the accident, the engine and the cars had been riding smoothly and there was no indication of defective equipment or track, nor of any obstruction having been on the track. The first that any member of the crew knew of anything being wrong was when the brakes became applied in emergency as a result of the derailment.

After the accident a broken rail was found on the south side of the track. The rail was broken into many pieces, 17 of which were recovered. The first break occurred at a point 11-1/4 inches east of the receiving end of the rail, over a tie, 3/4 inch west of the east end of the angle bars and 3-1/4 inches west of the east bond-wire connection. This piece of rail remained attached to the angle bars and in its normal location in the track. The receiving end at this break was battered considerably. The second break occurred between two

ties at a point 24 inches east of the first break. At the first break there was a transverse fissure which covered 84.9 percent of the cross-sectional area of the head of the rail. The fissure did not extend to the outer surface. The remainder of the breaks through the head, and the breaks in the web and the base of the rail were new.

A west-bound passenger train passed over this track about 30 minutes before the derailment occurred, and the crew did not observe any abnormal condition of the track. It is probable that the complete failure of the rail at the location of the first and second breaks occurred when the front portion of No. 58 passed over it, then the piece between these breaks became displaced and the derailment followed. The remainder of the breaks in the rail apparently occurred as a result of the derailment.

The track involved was last tested by a rail detector car on October 7, 1946. This test did not disclose any defect in the rail in question. About two months prior to the accident, metal was welded to the head at the ends of the rail involved, and the ends were shaped to contour by grinding. About one week before the accident occurred the rail in question was inspected by the mirror method, and no defective condition was observed.

Cause

It is found that this accident was caused by a broken rail.

Dated at Washington, D. C., this twenty-eighth day of February, 1947.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,

Secretary.