

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 3116
SOUTHERN PACIFIC COMPANY
REPORT IN RE ACCIDENT
AT EL CASCO, CALIF., ON
JULY 11, 1947

SUMMARY

Railroad: Southern Pacific
Date: July 11, 1947
Location: El Casco, Calif.
Kind of accident: Derailment
Train involved: Freight
Train number: Extra 4369 West
Engine number: 4369
Consist: 102 cars, caboose
Estimated speed: 20 m. p. h.
Operation: Signal indications
Track: Single; 4° curve; 1.65 percent
descending grade westward
Weather: Clear and dark
Time: 8:09 p. m.
Casualties: 2 killed
Cause: Obstruction on track

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3116

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

SOUTHERN PACIFIC COMPANY

August 15, 1947

Accident at El Casco, Calif., on July 11, 1947, caused
by an obstruction on the track.

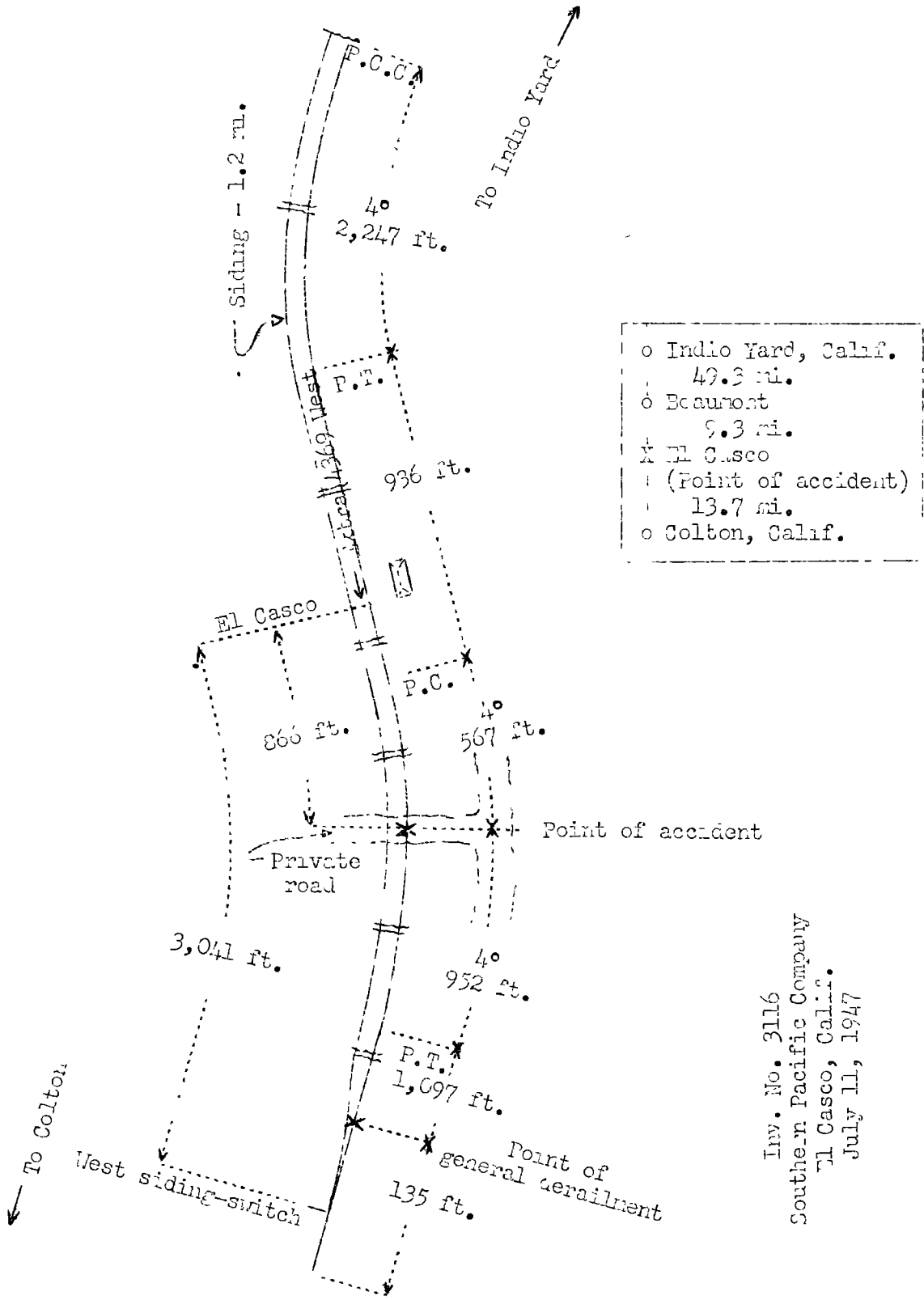
REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On July 11, 1947, there was a derailment of a freight train on the line of the Southern Pacific Company at El Casco, Calif., which resulted in the death of two employees. This accident was investigated in conjunction with a representative of the Public Utilities Commission of California.

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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.



Location of Accident and Method of Operation

This accident occurred on that part of the Los Angeles Division extending between Indio Yard and Colton, Calif., 72.3 miles, a single-track line in the vicinity of the point of accident, over which trains are operated by signal indications. At El Casco, 58.6 miles west of Indio Yard, a siding 1.2 miles in length parallels the main track on the north. The west switch of this siding is 3,041 feet west of the station. The accident occurred on the main track at a point 866 feet west of the station, where the main track and the siding are crossed at grade by a private road, and the general derailment occurred at the frog of the west siding-switch. From the east there are, in succession, a compound curve to the left, having a maximum curvature of 4°, 2,247 feet in length, a tangent 936 feet and a 4° curve to the right 567 feet to the point of derailment and 952 feet westward, then the track is tangent 1,097 feet to the point of general derailment and 135 feet westward. The grade is 1.65 percent descending westward.

The track structure consists of 131-pound rail, 39 feet in length, laid on an average of 24 ties to the rail length. It is fully tieplated with double-shoulder canted tieplates, double-spiked on the inside and single-spiked on the outside on curves, and provided with 4-hole angle bars. It is ballasted with crushed stone to a depth of 3 inches. At the point of accident the curvature was 4°, and the superelevation was 3 inches. The private road crosses the siding and the main track at an angle of about 85°. The road and the crossing are about 10 feet wide. The surface of the private road south of the crossing is earthen and is considerably rutted. The surface of the crossing consists of crushed stone and asphaltum between the rails and throughout a distance of several feet outside each rail. The level of the surface is about 2-1/2 inches below the level of the tops of the rails.

The maximum authorized speed for the train involved was 25 miles per hour.

Description of Accident

Extra 4369 West, a west-bound freight train, consisting of engine 4369, a 4-8-2 type, 102 cars and a caboose, departed from Beaumont, 9.3 miles east of El Casco, at 7:51 p. m., and while it was moving at an estimated speed of 20 miles per hour the front engine-truck wheels were derailed on the private-road crossing at El Casco. These wheels continued in line with the track a distance of 1,097 feet to the frog of the turnout of the west siding-switch, where all wheels of the engine and the first 11 cars were derailed.

The engine stopped on its left side about 5 feet south of the main track and parallel to it, with the front end of the engine 230 feet west of the frog. The cab was torn loose and was demolished, steam pipes in the cab were broken, and the engine was otherwise badly damaged. The tender stopped across the main track, at the rear of the engine and at right angles to it. The derailed cars stopped within a distance of 110 feet, at the rear of the engine. Of these cars 9 were damaged beyond repair, and 2 were slightly damaged.

The engineer and the fireman were killed.

The weather was clear and it was dark at the time of the accident, which occurred at 8:09 p. m.

Discussion

Extra 4369 West was moving at an estimated speed of 20 miles per hour on a 1.65 percent descending grade and on a 4° curve to the right, in territory where the maximum authorized speed for this train was 25 miles per hour, when the derailment occurred. The engineer and the fireman were killed. The front brakeman was on the sixteenth car, the sixth brakeman was on the thirty-fourth car, the fifth brakeman was on the fifty-first car, the fourth brakeman was on the sixtieth car, the third brakeman was on the eighty-second car, and the conductor and the flagman were in the cupola of the caboose. The retaining valves on the second to fifty-first cars, inclusive, were set for use. Prior to the time of the accident the cars had been riding smoothly. The surviving members of the crew were not aware of anything being wrong until the brakes became applied in emergency. The conductor said that brake-pipe pressure of 80 pounds was being maintained, as indicated by the brake-pipe gauge in the caboose, and that when the engine was in the vicinity of the east siding-switch a service application of the brakes reduced the speed to about 18 miles per hour, then the brakes were released about the time the engine reached the east switch. Soon afterward, the conductor observed that the speed was about 20 miles per hour and that a heavy brake-pipe reduction had been made, which was followed by an emergency application of the brakes. The brakes of this train had been tested and had functioned properly en route.

Examination after the accident disclosed no defective condition of the engine, and there was no indication of dragging equipment or defective track. The throttle lever, both brake-valves and the reverse-lever had been torn from their locations on the engine as a result of the derailment. The first mark on the track structure was a flange mark at the inside edge of

the top surface of the south, or high, rail about the center of the private-road crossing. This mark continued diagonally across the head of the rail and dropped outside the rail within a distance of 5 feet 7 inches. Opposite this point a flange mark appeared on the top of a tie inside the north rail. From this point westward flange marks appeared on the tops of the ties inside the north rail and outside the south rail throughout a distance of 1,097 feet to the frog of the west siding-switch. Abrasion marks on the engine-truck assembly, particularly the left derailment-safety-guide, indicated that the front pair of engine-truck wheels were the first to be derailed. The derailment-safety-guide consists of an L-shape bar bolted and welded longitudinally to the pedestals on each side of the engine truck in such manner that when any, or all, of the wheels of the engine truck become derailed the vertical member of one of the guides overlaps the rail. The left safety-guide was considerably abraded at its forward end.

At the first mark of derailment crushed splinters of wood were found on the top of the south rail, and splinters were found scattered inside and outside this rail throughout a distance of about 200 feet westward. Broken portions of a 2-inch by 4-inch piece of sawed wood were found scattered in the vicinity of the private road crossing. These pieces were identified as portions of one unit which previously had measured 2 inches thick by 4 inches wide by 3 feet 9 inches long.

The investigation disclosed that just prior to the time the derailment occurred a coupe, to which an improvised trailer with 1,500 pounds of barley was attached, had been driven over the crossing. The trailer consisted of an assembly of one pair of automobile wheels and a tray-deck, consisting of 1-inch by 6-inch boards nailed crosswise on wooden framing. The framing consisted of a center member 4 inches by 4 inches, and two outside members 2 inches by 4 inches. These members were arranged longitudinally and were braced at each end by transverse wooden members 2 inches thick by 4 inches wide by 3 feet 9 inches long. The framing members were secured to each other by 30d nails. After the accident examination disclosed that the transverse member at the rear of the trailer deck was missing. The owner identified the pieces of wood found at the point of accident as having been the cross member at the rear of the trailer deck. He said that after the load had been placed on the trailer, he had driven over rough fields and over a rough dirt road. In his opinion, the shocks of this journey had

loosened the rear cross member to the extent that when the trailer wheels passed over the rails of the main track the cross member pulled free and dropped on the south rail of the main track. A few minutes later the engine of Extra 4369 West entered upon the crossing, and the left front engine-truck wheel mounted the piece of timber and was derailed to the left, which was to the outside of the curve.

Cause

It is found that this accident was caused by an obstruction on the track.

Dated at Washington, D. C., this fifteenth day of August, 1947.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.