INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2964

SEABOARD AIR LINE RAIL'AY COMPANY

REPORT IN RE ACCIDENT

NEAR BLANEY, S. C., ON

JANUARY 2, 1946

SUMMARY

Railroad:	Seaboard Air Line
Date:	January 2, 1946
Location:	Blaney, S. C.
Kind of accident:	Derailment
Train involved:	Passenger
Train number:	43
Engine number:	Diesel-electric units 3026, 3103 and 3002
Consist:	17 cars
Estimated speed:	60 m. p. h.
Operation:	Timetable, train orders and manual-block system
Track:	Single; 2° curve; 0.803 percent descending grade southward
Weather:	Clear
Time:	5:14 a. m.
Casualties:	2 killed; 118 injured
Cause:	Broken rail, as result of presence of transverse fissures

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2964

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

SEABOARD AIR LINE RAILWAY COMPANY

February 25, 1946.

Accident near Blaney, S. C., on January 2, 1946, caused by a broken rail, as a result of the presence of transverse fissures.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On January 2, 1946, there was a derailment of a passenger train on the Seaboard Air Line Railway near Blaney, S. C., which resulted in the death of 2 passengers, and the injury of 104 passengers, 11 dining-car employees, 1 train porter and 2 train-service employees. This accident was investigated in conjunction with a representative of the Public Service Commission of South Carolina.

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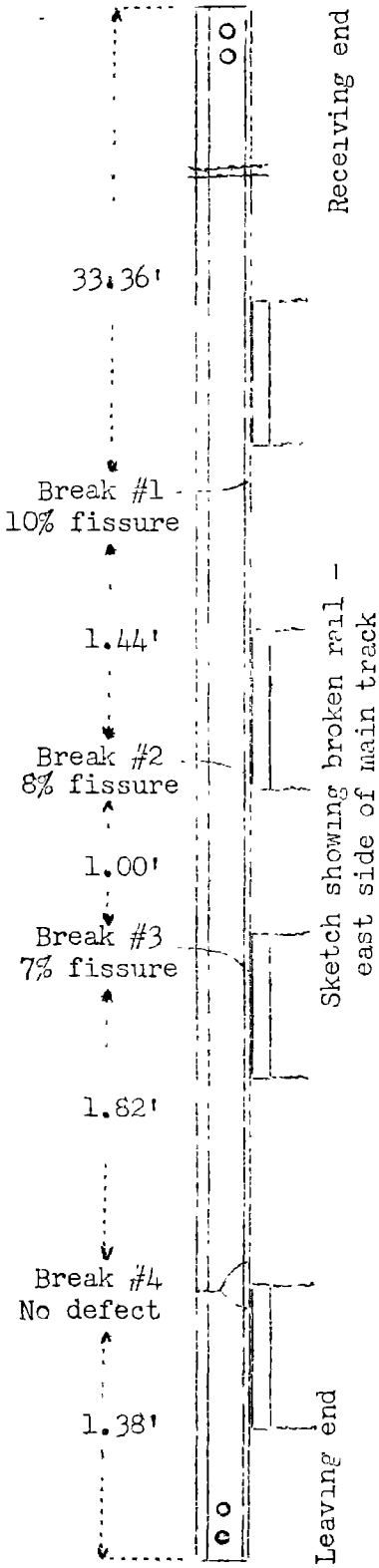
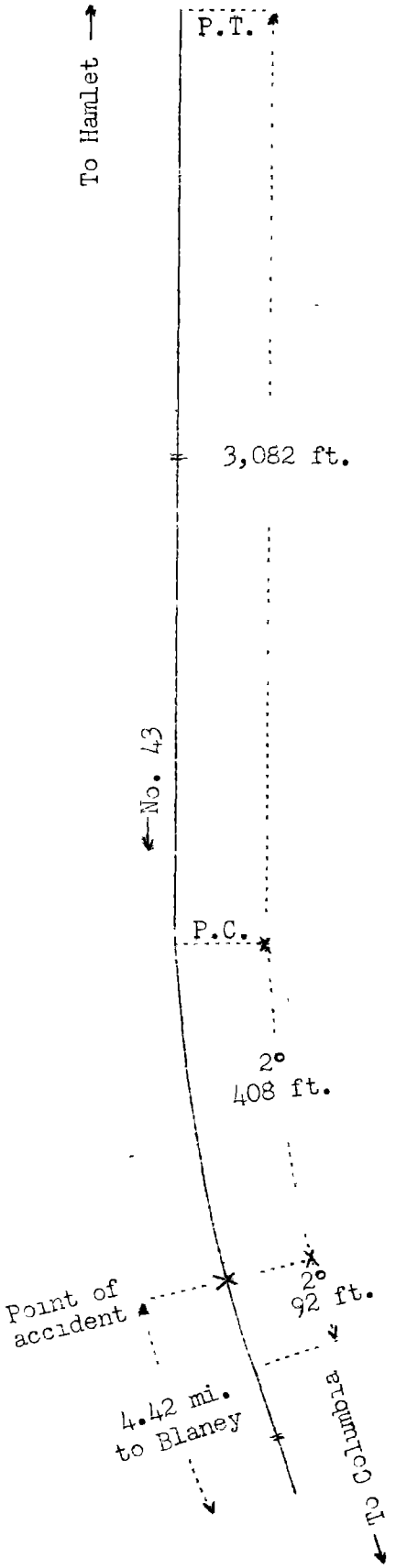
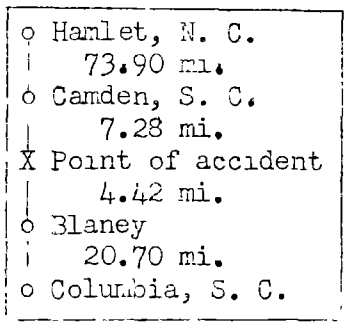
[1]Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Sketch showing broken rail - east side of main track





Inv. No. 2964
Seaboard Air Line Railway
Blaney, S. C.
January 2, 1946

Location of Accident and Method of Operation

This accident occurred on that part of the Carolina Division which extends between Hamlet, N. C., and Columbia, S. C., 106.3 miles, a single-track line over which trains are operated by timetable, train orders and a manual-block system. The accident occurred 81.18 miles south of Hamlet, at a point 4.42 miles north of the station at Blaney. From the north there is a tangent 3,082 feet in length, which is followed by a 2° curve to the left 408 feet to the point of accident and 92 feet southward. The grade is 0.807 percent descending southward.

The track structure consists of 100-pound rail, 39 feet in length, rolled in 1935, and laid in December, 1935, on 22 treated ties to the rail length. It is fully tieplated, single-spiked, provided with 4-hole angle bars 24 inches long, and an average of 12 rail anchors per rail length, and is ballasted with crushed stone to a depth of 15 inches. The brand of the rail involved was Tennessee Number 838334, Letter B, ingot No. 17

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

Description of Accident

No. 43, a south-bound first-class passenger train, consisted of Diesel-electric units 3026, 3103 and 3002, one passenger-baggage car, seven Pullman sleeping cars, two dining cars and seven coaches, in the order named. The first and the twelfth cars were of lightweight steel construction, and the remainder were of conventional all-steel construction. This train passed Camden, the last open office, 7.28 miles north of the point of accident, at 5:05 a. m., 42 minutes late, and while it was moving at an estimated speed of 60 miles per hour the rear truck of the second Diesel-electric unit, the third Diesel-electric unit, the first to the seventh cars, inclusive, the front truck of the eighth car and the tenth to the fourteenth cars, inclusive, were derailed.

The first and the second Diesel-electric units, remaining coupled, stopped with the front end of the first unit about 1,700 feet south of the point of derailment. The third Diesel-electric unit stopped on its left side, in reverse position, down an embankment, east of the track and about 470 feet south of the point of derailment. The first car, which became separated from the third Diesel-electric unit and the second car, stopped on its left side, down the embankment east of the track and in the vicinity of the third Diesel-electric unit. The second to the fifth cars, inclusive, remaining coupled, stopped practically upright, east of the track, with the right side of the second car against the north end of the first car. The remainder of the derailed equipment stopped upright on the roadbed and practically in line with it. The derailed equipment was

considerably damaged.

The weather was clear at the time of the accident, which occurred about 5:14 a. m.

The conductor and the baggageman were injured.

Discussion

No. 43 was moving on a 2° curve to the left at a speed of about 60 miles per hour in territory where the maximum authorized speed was 60 miles per hour. The headlight of the first Diesel-electric unit was lighted brightly, and the enginemen were maintaining a lookout ahead from the control-compartment of the first unit. Prior to the time of the accident the Diesel-electric units 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. When the first Diesel-electric unit passed over the point where the derailment occurred, the enginemen felt an unusual movement of the first unit. The engineer immediately moved the brake valve to emergency position, but the derailment occurred before the speed of the train could be materially reduced.

After the accident a broken rail was found on the east side of the track. The rail was broken through the head, the web and the base at four places. The first break occurred 33.36 feet south of the receiving end of the rail. The receiving ends of the second and the third breaks, respectively, 1.44 feet and 2.44 feet southward were battered slightly, and the receiving end of the fourth break, 1.82 feet south of the third break, was battered considerably. At breaks Nos. 1, 2 and 3, there were transverse fissures which covered, respectively, 10 percent, 8 percent and 7 percent of the cross-sectional area of the head of the rail. None of these fissures extended to the outer surface of the rail.

No. 31, a south-bound first-class passenger train, consisting of two Diesel-electric units and 12 cars, passed the point where the derailment occurred about 1 hour 10 minutes prior to the time the accident occurred. The enginemen of this train said they did not hear any unusual noise or feel any unusual movement of the front unit in this vicinity, but the conductor and the baggageman, who were in the first car, heard a sound which indicated that some object had struck the car. The baggageman immediately sounded the communicating signal for the engineer to stop the train. The engineer made a full service brake-pipe reduction, and the train stopped about 1 mile south of this point. The flagman, who was in the sixteenth car, said that he did not observe any unusual movement of that car or hear any unusual noise in this vicinity. After the train stopped, he examined the track throughout a distance of about 0.75 mile as he proceeded northward to provide flag protection,

but no unusual condition of the track was observed. Examination of the equipment disclosed that the front brake rigging on the left side of the rear truck of the second Diesel-electric unit had been damaged. Two horizontal straps of the brake rigging were bent upward about 4 inches, and the brass hand-adjusting-nut and the slack adjusting-screw and bolt were broken off. Members of the crew removed the damaged parts of the brake rigging, and the train proceeded. No examination of the track in the vicinity of the point where the damage to the brake rigging occurred was made by a member of the crew of No. 31, and no report of the occurrence was made prior to the time No. 43 was derailed. Some time after the derailment occurred, examination disclosed that small particles of brass were imbedded in the cross-sectional area of the head of the north end of the broken rail at the second break, which condition indicated that this piece of rail had been in contact with the brass hand-slack-adjusting nut of the damaged brake equipment of No. 31. The division engineer thought that the failure of the rail at the first and second breaks occurred when the first Diesel-electric unit of No. 31 passed over this portion of the rail, and that the piece between these breaks was forced out of its proper alinement and struck the brake rigging of the rear truck of the second unit. Then the failure at the third and fourth breaks occurred when the first Diesel-electric unit of No. 43 passed over this portion of the rail, and the pieces between these breaks were forced out of their proper alinement.

The track involved was last inspected by the section foreman about 48 hours prior to the accident, and no defective condition was observed. A detector car was last operated over this territory on October 12, 1945, at which time there was no indication of a defective rail.

Cause

It is found that this accident was caused by a broken rail, as a result of the presence of transverse fissures.

Dated at Washington, D. C., this twenty-fifth day of February, 1946.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.