

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 2497
THE ATLANTIC COAST LINE RAILROAD COMPANY
REPORT IN RE ACCIDENT
NEAR DUPONT, GA., ON
APRIL 10, 1941

SUMMARY

Railroad:	Atlantic Coast Line
Date:	April 10, 1941
Location:	Dupont, Ga.
Kind of accident:	Derailment
Train involved:	Passenger
Train number:	12
Engine number:	1515
Consist:	7 cars
Speed:	60 m. p. h.
Operation:	Timetable and train orders
Track:	Single; tangent; 0.26 percent descending grade eastward
Weather:	Foggy
Time:	7:14 a. m.
Casualties:	77 injured
Cause:	Accident caused by broken rail, as result of presence of transverse fissure

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2497

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

THE ATLANTIC COAST LINE RAILROAD COMPANY

May 31, 1941

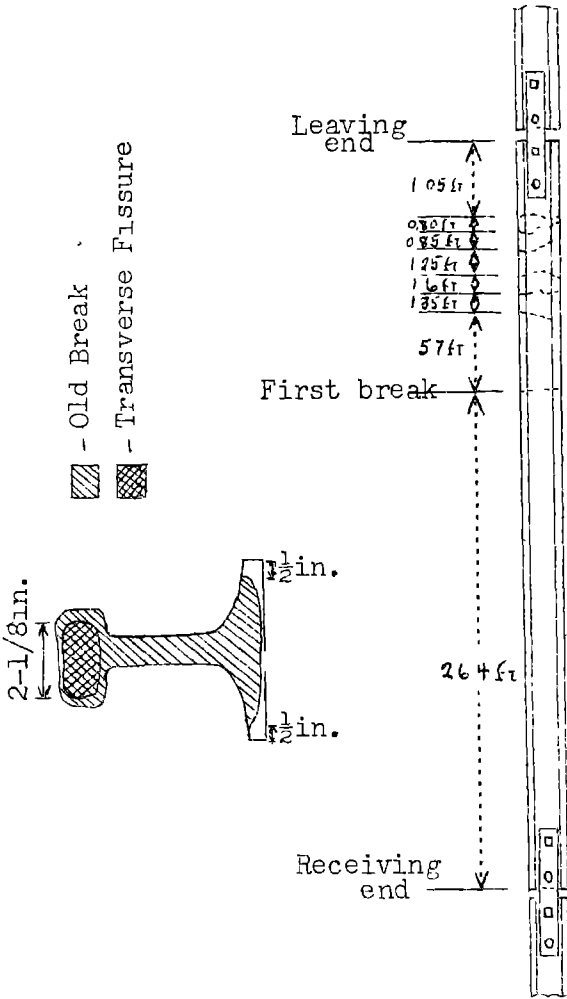
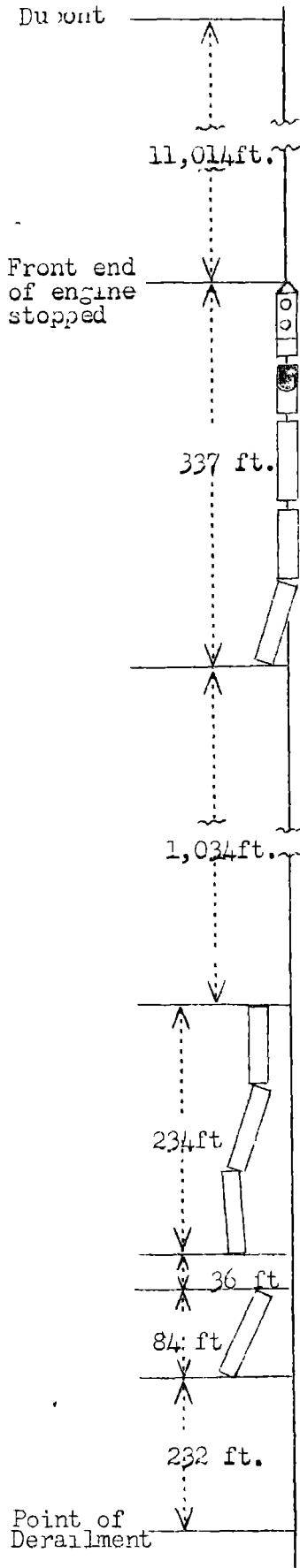
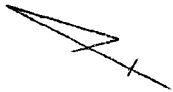
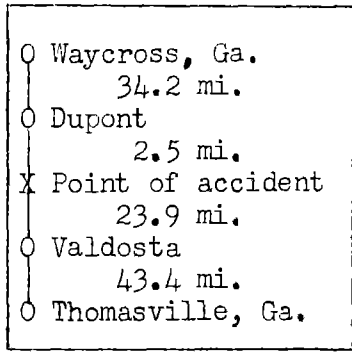
Accident near Dupont, Ga., on April 10, 1941, caused by
broken rail, as a result of presence of transverse
fissure.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On April 10, 1941, there was a derailment of a passenger train on the Atlantic Coast Line Railroad near Dupont, Ga., which resulted in the injury of 67 passengers, 9 dining-car employees, and 1 train-service employee.

¹Under 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-2497
 Atlantic Coast
 Line Railroad
 Dupont, Ga.
 April 10, 1941

Location and Method of Operation

This accident occurred on that part of the Waycross District which extends between Thomasville and Waycross, Ga., a distance of 104 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders; there is no block system in use. The accident occurred at a point 2.5 miles west of Dupont. As the point of accident is approached from the west there is a tangent 20 miles in length to the point of accident and 31 miles beyond. The grade for east-bound trains is 0.26 percent descending a distance of 2,908 feet to the point of accident and 292 feet beyond.

In the vicinity of the point of accident the track is laid on a fill 4 or 5 feet in height. The track structure consists of 100-pound rail, 39 feet in length, laid on 23 or 24 ties to the rail length; it is fully tieplated, single-spiked, equipped with 4-hole continuous angle-bars and 2 to 4 anchors to each rail. The track is ballasted with 6 inches of slag on top of 7 inches of gravel.

In the vicinity of the point of accident the maximum authorized speed for the train involved is 62 miles per hour.

There was a fog at the time of the accident, which occurred about 7:14 a. m.

Description

No. 12, an east-bound first-class passenger train known as the South Wind, with Conductor Whitaker and Engineman Wolff in charge, consisted of engine 1515, one baggage-dormitory-coach, two coaches, one dining car, two coaches, and one observation car, in the order named. The cars were Pennsylvania Railroad streamlined cars of stainless-steel construction. This train departed from Thomasville, 69.8 miles west of Dupont, at 5:58 a. m., according to the train sheet, on time, passed Valdosta, 26.4 miles west of Dupont and the last open office, at 6:48 a. m., 2 minutes ahead of time, and was derailed when approaching Dupont and moving at a speed of about 60 miles per hour.

The engine and first three cars remained coupled and stopped with the front end of the engine at a point 1,957 feet east of the point of derailment. The engine and first two cars were not derailed. The brake cylinder of the second car was punctured and the slack adjuster on the left side of the rear truck of this car was bent. The third car was derailed to the left and stopped with the rear end 17.5 feet north of the track and leaned to the left at an angle of about 15 degrees; the

rear coupler-support was torn loose, the coupler yoke broken and the substructure considerably damaged. The fourth car, which was the dining car, was derailed to the left and stopped on its left side about 19 feet north of the track at a point 586 feet east of the point of derailment and 1,034 feet west of the third car; the skirting on the left side was crushed, one floor support and the end sheets were bent; both ends, the roof and the substructure were badly damaged. There were 22 passengers and 9 dining-car employees in the dining car and most of the serious injuries occurred in this car, because of tables and chairs shifting. The fifth and sixth cars remaining coupled were derailed to the left, stopped against the fourth car, and were considerably damaged. The fifth car stopped immediately to the rear of the fourth car and leaned to the left at an angle of about 10 degrees; the front and rear ends were, respectively, 16.3 feet and 27 feet north of the track. The sixth car stopped at the rear of the fifth car and leaned to the left at an angle of about 5 degrees; the front and rear ends were, respectively, 27 feet and 23 feet north of the track. The seventh car was derailed to the left and stopped on its left side about 36 feet west of the sixth car; the front and rear ends were, respectively, 9.4 feet and 25 feet north of the track; the skirting on the left side was crushed throughout the length of the car and the side paneling was damaged throughout a distance of 42 feet; the substructure and the interior finishing were badly damaged.

The employee injured was the fireman.

Summary of Evidence

Engineman Wolff stated that he took charge of engine 1515 at Thomasville. Because the engine was not changed and there was no change made in the make-up of the train, an air-brake test was not made at that point. After the train departed from Thomasville a running test of the brakes was made and the brakes functioned properly en route. He was using a light throttle when the train approached the point where the accident occurred and the speed was about 60 miles per hour. The first he knew of anything being wrong was when the engine surged and then he observed that the brake-pipe pressure was depleted. He immediately opened the gander valve and placed the brake valve in emergency position. Some time after the train stopped he examined the engine and cars but was unable to find any indication of dragging equipment. There was a fog that restricted visibility to a distance of about 1/4 mile at the time of the accident, which occurred about 7:14 a. m.

Fireman Boynton corroborated the statement of his engineman and added that when the train approached the point where the accident occurred he was on the left seatbox maintaining a lookout

ahead. The first he knew of anything being wrong was when the engine appeared to strike something that sounded like a broken rail and the brakes became applied in emergency almost immediately.

Conductor Whitaker stated that he was seated at the rear of the first car as his train approached the point where the accident occurred. The speed was about 60 miles per hour. His first knowledge of anything being wrong was a pounding noise similar to that made by car trucks moving over a broken rail. The brakes were applied in emergency before he was able to take any action. The accident occurred at 7:14 a. m.

Baggagemaster Lee stated that he was in the baggage compartment of the first car as his train approached the point where the accident occurred. He heard a noise similar to that of a rail breaking and then the car bounced up and down for a short distance.

The statement of Train Porter Hill added nothing of importance.

Flagman Talley stated that at intervals between Thomasville and the point of accident he inspected his train and found nothing wrong. He was at the front end of the rear car as his train approached the point where the accident occurred. The first he knew of anything being wrong was when the rear car dropped suddenly to the ties. Immediately after the rear car stopped he started back to provide flag protection and examined the track throughout a distance of about 1-3/4 miles to the rear of his train but was unable to find anything wrong with the track or any indication of dragging equipment.

General Roadmaster Haley stated that he arrived at the scene of the accident about 8:30 a. m. He said the accident was caused by a broken rail; this break was located at a point 26.4 feet from the receiving end of a rail on the north side of the track. He observed that the fracture was about 98 percent old break and showed about a 75-percent transverse fissure about 1/16 inch of the base and about 1/4 inch of part of the head of the rail showed a new break. The rail was broken into eight pieces. The adjacent ends at the first break were battered in a manner which indicated that a west-bound train had passed this point after the fracture occurred. He made an inspection of the track involved approximately 2 weeks prior to the day of the accident.

Section Foreman Lovett, in charge of the section involved, arrived at the scene of the accident between 7:35 and 7:40 a. m. He said that the accident was caused by a broken rail. The

leaving end of the first piece and the receiving end of the second piece of the broken rail, being battered somewhat, indicated to him that at least several wheels had passed over the break prior to the derailment. He said the rail showed a large transverse fissure and about 85 percent old break. In his opinion the rail had been partially broken by a train several hours prior to the accident. He last inspected this section of track on April 5 from his motor-car while it was moving at a speed of 18 or 20 miles per hour. He inspects his track about once a week and practically all inspections are made from his motor-car. He did not think the defect could have been discovered by a track walker unless he crawled along the track. He said that on April 7 a bolting gang tightened the bolts at both ends of the rail involved and they found no defect. During the 3-month period prior to the day of the accident there had been three broken rails on his section, which is 12 miles in length. The force assigned to this section consists of four laborers and himself.

Superintendent of Motive Power Grant stated that he arrived at the scene of the accident about 9 a. m. He observed that adjacent ends at the first fracture in the rail were battered. In his opinion trains had passed in both directions after the fracture occurred. He said the equipment of the train involved consisted of seven light-weight cars constructed of stainless steel and equipped with tight-lock couplers and roller-bearing 4-wheel trucks. The center-sills were undamaged except for a slight indentation in one of them. He thought the safety glass in the windows of the cars prevented injuries.

General Superintendent Walker stated that the rail involved was laid in 1927. He said that a detector car had never been operated over the section of track involved. The sections of track to be tested by a detector car are selected on the basis of the number of rail failures reported. On the section involved there had been very few failures reported.

Five members of the crew of No. 58, the last train to pass over the track involved, stated that when their train passed that point about 3:43 a. m., they did not observe any abnormal track condition in the vicinity where the accident occurred. The same crew was on No. 57, which passed the point involved at 11:18 p. m., April 9, and which was the last west-bound train; they did not observe any abnormal condition.

According to data furnished by the railroad, the rail involved was a 39-foot, 100-pound, open-hearth rail, rolled by the Tennessee Coal, Iron & Railroad Company in January, 1927, and laid during the same year. The heat number was 857,118, Letter B, and the ingot number was 25. The first break occurred at a point 26.4 feet from the receiving end of the rail and six addi-

tional breaks occurred at points 32.1 feet, 33.45 feet, 35.05 feet, 36.3 feet, 37.15 feet, and 37.95 feet from the receiving end. The first fracture showed 98 percent old break and a transverse fissure of 60 percent. The third, fourth, fifth, sixth, and seventh fractures showed transverse fissures of, respectively, 4 percent, 8 percent, 18 percent, 7 percent, and 12 percent.

During the 30-day period preceding the day of the accident, the average daily movement over the line involved was 12.7 trains.

Observations of the Commission's Inspectors

The Commission's inspectors observed that the first fracture occurred in the north rail at a point 26.4 feet from the receiving end. It showed a transverse fissure of about 75 percent of the cross-sectional area. The only break of the metal which appeared to be new was a very small area at the top of the head of the rail and about 1/8 inch of the lower part of the base. The old break appeared to have existed for some time. The leaving end of the first piece was battered about 1/4 inch and the receiving end of the second piece was battered from 1/2 to 3/4 inch. Because of the battered condition it could not be determined whether the fissure had progressed to the surface of the head, but the web had been fractured for a considerable time. The coupler at the rear end of the third car was broken out and remained locked with the coupler at the front end of the fourth car.

Discussion

According to the evidence, No. 12 was moving at a speed of 60 miles per hour when the third car and those following became derailed on tangent track. The maximum authorized speed for this train was 62 miles per hour. The engine and cars had been riding smoothly. Prior to the time of the derailment, there was no indication of defective equipment or track, nor of any obstruction on the track. The engineman and the fireman felt the engine surge, and the fireman heard something that sounded like a broken rail.

Soon after the accident occurred, a rail on the north side of the track was found broken into eight pieces. The derailment occurred at the first fracture, which was at a point 26.4 feet east of the receiving end of the rail. Examination of this fracture disclosed a transverse fissure covering about 75 percent of the cross-sectional area. All but a small area at the top of the head and 1/8 inch of the lower part of the base had been broken a considerable time prior to the occurrence of the accident. Because of batter marks on the adjacent ends of the first and

second pieces of the broken rail, it is apparent that wheels of some west-bound train passed over this point after the rail had become entirely broken. When the last west-bound train and the last east-bound train passed the point involved, about 8 hours and 3-1/2 hours, respectively, before the derailment occurred, no abnormal condition was observed. The track was last inspected 5 days before the day of the accident. This inspection was made from a motor-car moving at a speed of 18 or 20 miles per hour.

The investigation disclosed that inspection of the track usually consisted of observations made from a motor-car about once each week. Since the greater part of the fracture apparently had progressed to the surface a considerable length of time prior to the occurrence of the accident, if frequent and thorough inspections had been made it is probable that the defective condition would have been discovered in time to have averted the accident. To safeguard the operation on lines where trains are operated at a high rate of speed it is highly important that the track structure be given close inspection. According to the evidence, a detector car had never been used on this line.

Cause

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

Dated at Washington, D. C., this thirty-first day of May, 1941.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,

Secretary.