INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2558

THE FLORIDA EAST COAST RAILWAY COMPANY

REPORT IN RE ACCIDENT

AT BAYARD, FLA., ON

JANUARY 11, 1942

SUMMARY

Railroad:	Florida East Coast
Date:	January 11, 1942
Location:	Bayard, Fla.
Kind of accident:	Derailment
Train involved:	Passenger
Train number:	4
Engine number:	Diesel-electric 1001
Consist:	7 cars
Speed:	82 m. p. h.
Operation:	Timetable, train orders and automatic block-signal system
Track:	Double; tangent; practically level
Weather:	Clear
Time:	About 12:20 a. m.
Casualties:	9 injured
Cause:	Accident caused by broken rail, as result of presence of transverse fissures

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2558

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

THE FLORIDA EAST COAST RAILWAY COMPANY

February 21, 1942.

Accident at Bayard, Fla., on January 11, 1942, caused by broken rail, as result of presence of transverse fissures.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On January 11, 1942, there was a derailment of a passenger train on the Florida East Coast Railway at Bayard, Fla., which resulted in the injury of nine passengers.

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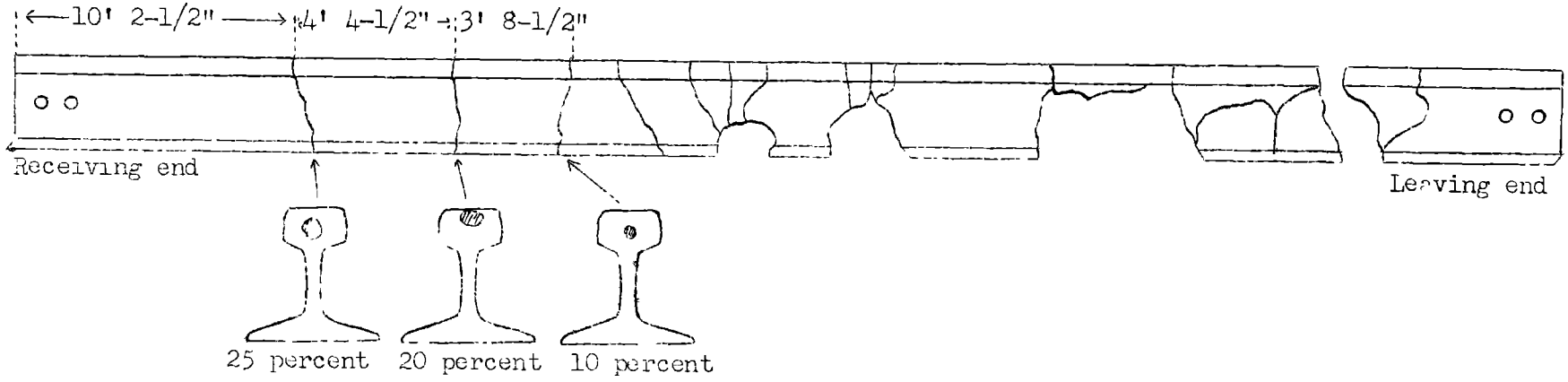
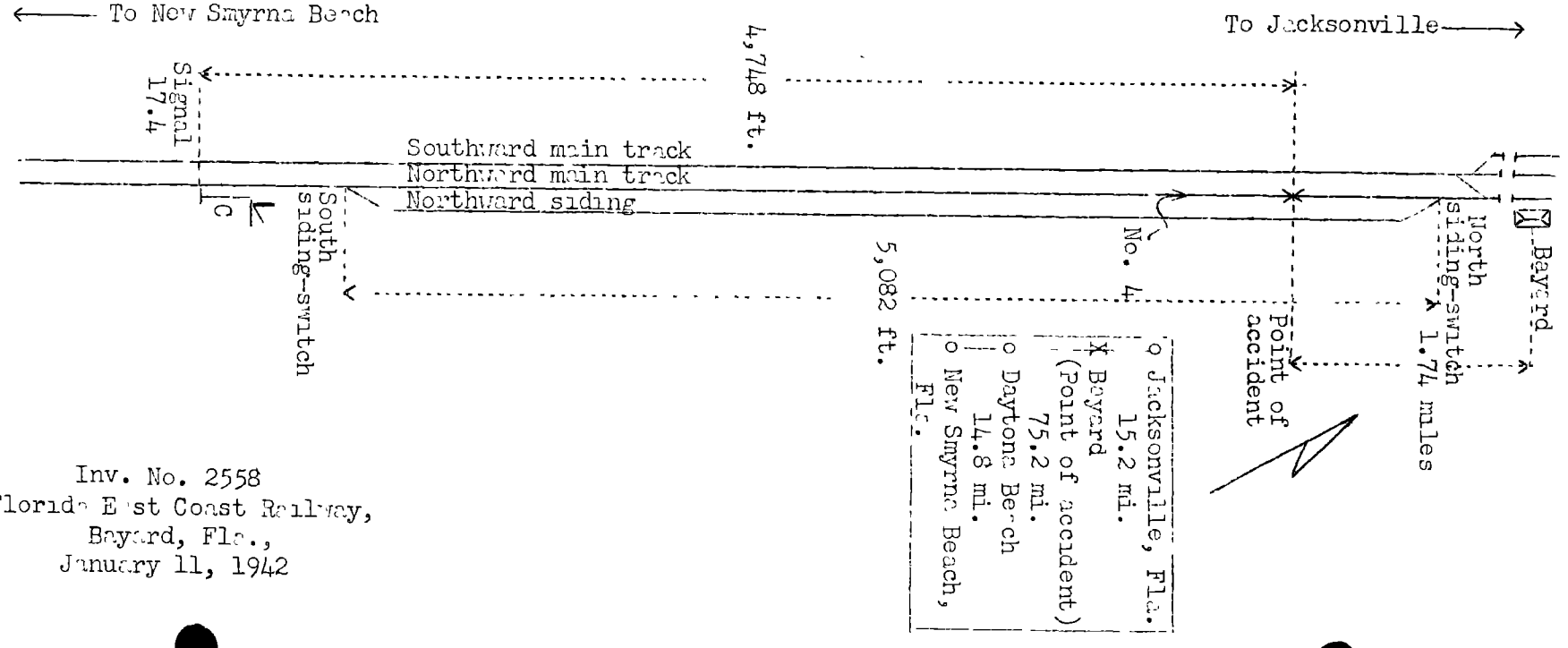
[1]Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Sketch showing locations of fractures and transverse fissures



Inv. No. 2558
Florida East Coast Railway,
Bayard, Fla.,
January 11, 1942

Location of Accident and Method of Operation

This accident occurred on the First District, which extends between New Smyrna Beach and Jacksonville, Fla., a distance of 105.2 miles. In the vicinity of the point of accident this is a double-track line over which trains are operated by timetable, train orders and an automatic block-signal system. The accident occurred on the northward main track at a point 1.74 miles south of the station at Bayard. As the point of accident is approached from the south the track is tangent a distance of about 6 miles to the point of accident and several miles beyond. The grade is practically level.

The track structure consists of 90-pound rail, 39 feet in length, laid new in 1925 on 22 ties to the rail length; it is fully tieplated, single-spiked, and equipped with 4-hole 100-percent angle bars and 8 rail anchors to each rail. The track is ballasted with slag to a depth of 15 inches. The cribs and the space between the main tracks are filled and the ballast extends a considerable distance beyond the ends of the ties.

Automatic signal 17.4, which governs northward movements, is located 4,748 feet south of the point of derailment.

The maximum authorized speed for the train involved is 85 miles per hour.

Description of Accident

No. 4, a north-bound first-class passenger train, consisted of Diesel-electric engine 1001, one passenger-baggage car, two coaches, one dining car, two coaches and one lounge car, in the order named. All cars were streamlined, of lightweight all-steel construction and equipped with tight-lock couplers. After a terminal air-brake test was made this train departed from New Smyrna Beach, 90 miles south of Bayard, at 10:55 p. m., January 10, according to the dispatcher's record of movement of trains, 9 minutes late, departed from Daytona Beach, 75.2 miles south of Bayard and the last open office, at 11:14 p. m., 11 minutes late, passed signal 17.4, which displayed a proceed indication, and while moving at a speed of 82 miles per hour, as indicated by the tape of the speed recorder with which the engine was equipped, it was derailed.

The train remained coupled and the engine and the first five cars were not derailed. The rear truck of the sixth car and both trucks of the seventh car were derailed. The sixth and seventh cars stopped upright and in line with the track, with the rear end of the seventh car about 2,800 feet north of the point of derailment. These cars were somewhat damaged. About

2,000 feet of track immediately north of the point of derailment was damaged.

The weather was clear at the time of the accident, which occurred about 12:20 a. m.

Data

The rail involved was a 39-foot, 90-pound ARA-A, open hearth rail, manufactured by the Tennessee Coal, Iron and Railroad Company in March, 1925, and laid in the track during the same year. The heat number was 882666, Letter B.

During the 30-day period preceding the day of the accident, the average daily movement over the track involved was 13.7 trains.

Discussion

No. 4 was moving at a speed of 82 miles per hour when it became derailed in territory where the maximum authorized speed was 85 miles per hour. Prior to the time of the accident, the engine and cars had been riding smoothly. There was no indication of defective track or equipment, nor of any obstruction on the track. The last automatic signal that No. 4 passed displayed proceed. As the engine passed over the point where the accident occurred, the enginemen did not feel any abnormal condition of the track. The first the engineer was aware of the accident was when he felt the train surge. He immediately moved the brake valve to emergency position and the train stopped within a distance of about 2,800 feet. The baggageman, who was in the first car, did not feel any unusual motion of the car as it passed the point where the derailment occurred. The flagman, who was at the rear door of the sixth car, felt a sudden lurch, and then the car began to sway. The conductor, who was in the seventh car, did not know of the derailment until that car began to sway and to lurch.

After the accident occurred, a broken rail was found on the west side of the track. The rail was broken into many pieces, 17 of which were recovered. The first break occurred between two ties at a point 10 feet 2-1/2 inches north of the receiving end of the rail. This piece of rail remained in normal position. At the first break there was a transverse fissure covering about 25 percent of the cross-sectional area of the head of the rail. At the second and third breaks, which occurred at points 14 feet 7 inches and 18 feet 3-1/2 inches north of the receiving end of the rail, there were transverse fissures covering, respectively, 20 percent and 10 percent of the cross-sectional area of the head. None of these fissures had pro-

gressed to the outer surface of the head of the rail. Wheel marks on the rail at the south end of the third broken section indicated that the derailment occurred at this point. The other breaks in the rail appeared to have resulted during the derailment. Since the automatic signal displayed proceed and no abnormal condition of the track was felt when the front portion of No. 4 passed the point where the accident occurred, it is apparent that the rail broke under the train.

On the day prior to the accident, the track at the point involved was inspected by the section foreman and no defective condition was found. In recent years this carrier has operated a detector car over its main tracks once each year. A detector car was last operated over the track involved on December 3, 1940.

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-first day of February, 1942.

By the Commission, Commissioner Patterson.

(SEAL) W. P. BARTEL,

Secretary.