

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3425
THE PENNSYLVANIA RAILROAD COMPANY
IN RE ACCIDENT
NEAR NOTTAWA, MICH., ON
AUGUST 28, 1951

SUMMARY

Date: August 28, 1951
Railroad: Pennsylvania
Location: Nottawa Mich.
Kind of accident: Derailment
Train involved: Passenger
Train number: 500
Engine number: Diesel-electric unit 5867A
Consist: 8 cars
Estimated speed: 55 m. p. h.
Operation: Timetable, train orders and manual-block system
Track: Single tangent; 0.33 percent ascending grade southward
Weather: Clear
Time: 12:50 a. m.
Casualties: 6 injured
Cause: Broken rail

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3425

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

THE PENNSYLVANIA RAILROAD COMPANY

October 29, 1951

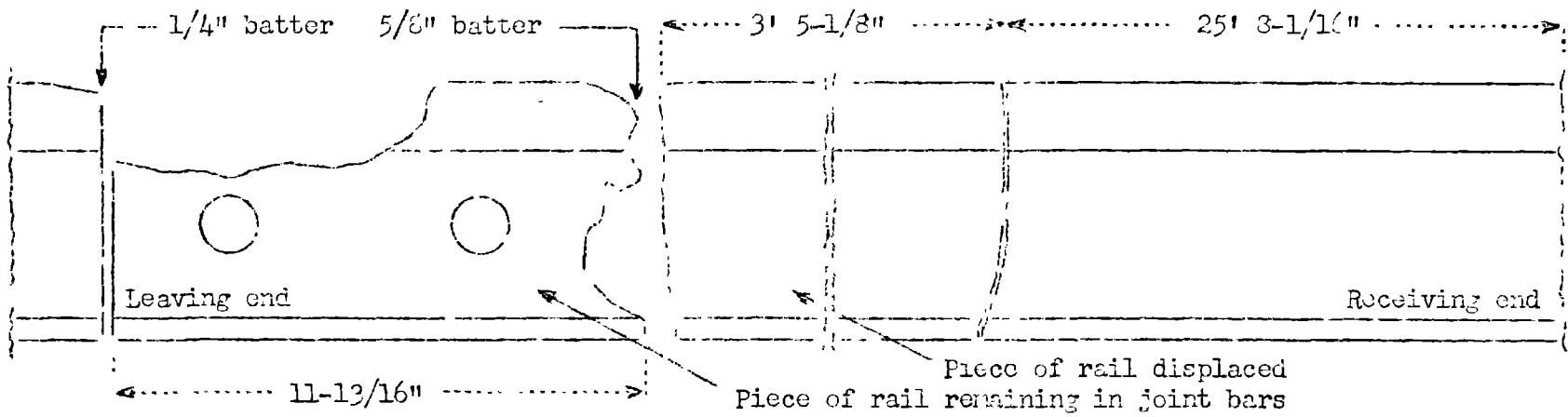
Accident near Nottawa, Mich., on August 28, 1951, caused
by a broken rail.

REPORT OF THE COMMISSION¹

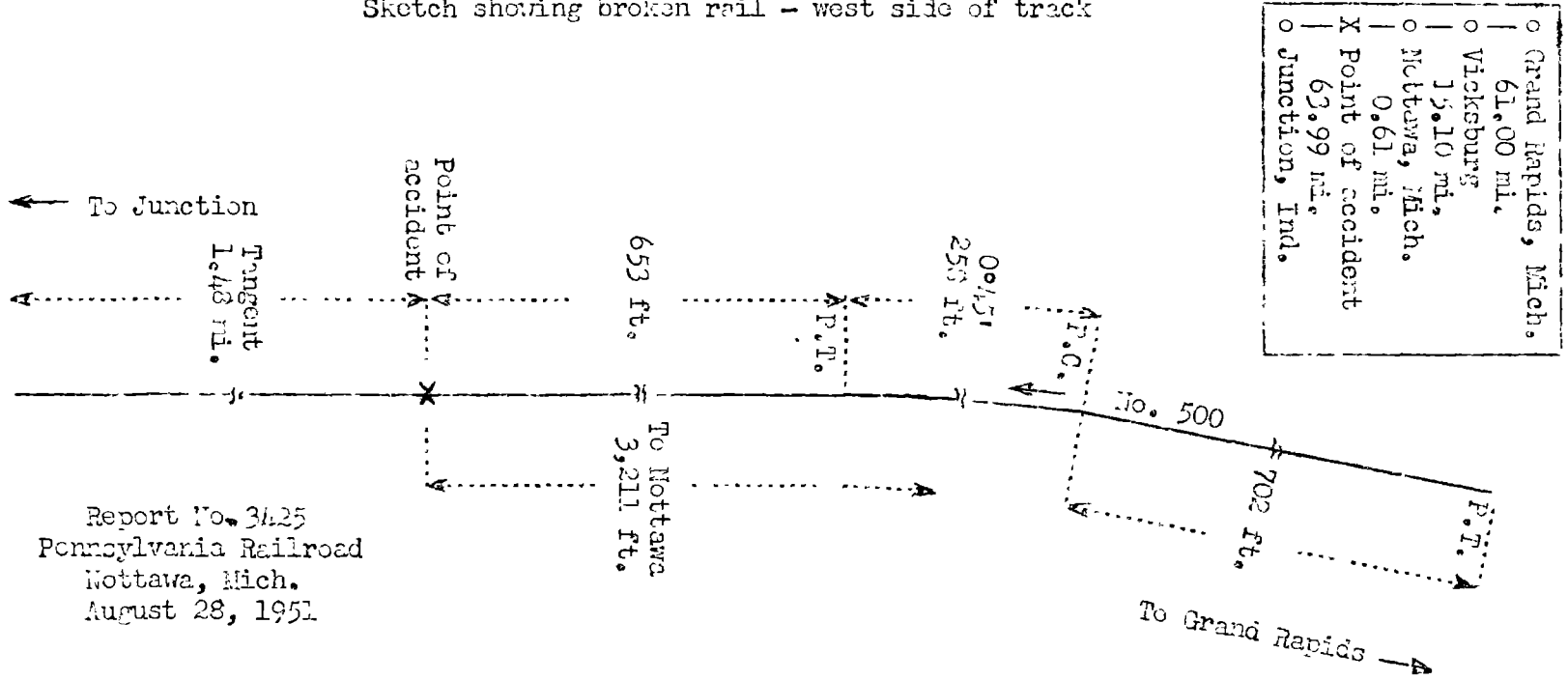
PATTERSON, Commissioner:

On August 28, 1951, there was a derailment of a passenger train on the Pennsylvania Railroad near Nottawa, Mich., which resulted in the injury of four passengers and two train-service employees. This accident was investigated in conjunction with a representative of the Michigan Public Service Commission.

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 - west side of track



Report No. 3425
 Pennsylvania Railroad
 Nottawa, Mich.
 August 28, 1951

Location of Accident and Method of Operation

This accident occurred on that part of the Fort Wayne Division extending between Grand Rapids, Mich., and Junction, near Fort Wayne, Ind., 140.7 miles, a single-track line, over which trains are operated by timetable, train orders and a manual-block system. The accident occurred on the main track at a point 76.71 miles south of Grand Rapids and 3,211 feet south of the station at Nottawa. From the north there are, in succession, a tangent 702 feet in length, a $0^{\circ}45'$ curve to the left 258 feet, and a tangent 653 feet to the point of accident and 1.48 miles southward. The grade is 0.33 percent ascending at the point of accident.

In the immediate vicinity of the point of accident the track is laid on a fill. The track structure consists of 100-pound rail, 33 feet in length, laid new in 1917, on an average of 18 treated ties to the rail length. It is 85 percent tieplated with single-shoulder tieplates, about 50 percent double-spiked, and is provided with 4-hole 24-inch joint bars, and an average of 4 rail anchors per rail. It is ballasted with washed gravel to a depth of 12 inches below the ties. The rail ends were field-welded during 1944.

The maximum authorized speed for passenger trains is 60 miles per hour.

Description of Accident

No. 500, a south-bound first-class passenger train, consisted of Diesel-electric unit 5867A, three baggage cars, one baggage-mail car, one baggage car, one sleeping car, one coach and one baggage car, in the order named. All cars were of conventional steel construction. The seventh car was equipped with tightlock couplers. This train departed from Grand Rapids at 10:32 p. m., August 27, 32 minutes late, departed from Vicksburg, the last open office, 15.71 miles north of the point of accident, at 12:32 a. m., 37 minutes late, and while moving at an estimated speed of 55 miles per hour, the first car and the third to the eighth cars, inclusive, were derailed at a point 3,211 feet south of the station at Nottawa.

Separations occurred between the sixth and seventh cars. The Diesel-electric unit stopped with its south end 1,210 feet south of the point of accident. The Diesel-electric unit and the second car remained on the track. The first and the third

to the sixth cars, inclusive, stopped upright and in line with the track. The seventh and the eighth cars stopped 16 feet west of the track and leaned to the west at an angle of about 45 degrees, with the south end of the seventh car 100 feet north of the sixth car. The sixth and the seventh cars were badly damaged and the other cars were slightly damaged.

The conductor and the flagman were injured.

The weather was clear at the time of the accident, which occurred at 12:50 a. m.

Discussion

When the accident occurred, No. 500 was moving on tangent track at an estimated speed of 55 miles per hour in territory where the maximum authorized speed for passenger trains was 60 miles per hour. The brakes of the train had been tested and had functioned properly when used en route. The headlight was lighted brightly. The enginemen were maintaining a lookout ahead from their respective positions in the control compartment of the Diesel-electric unit and the members of the train crew were in various locations throughout the cars of the train. Members of the train crew said that before the derailment occurred the cars were riding smoothly. The engineer said that at the point of derailment the engine apparently drooped and then righted itself. He applied the brakes in emergency.

Examination of the equipment after the accident occurred disclosed no defective condition which could have caused or contributed to the cause of the accident. Apparently the damage to the equipment occurred as a result of the derailment.

Examination of the track after the accident occurred disclosed no indication of dragging equipment nor of any obstruction having been on the track. The surface, alinement and gage were well maintained for the maximum authorized speed. At the point of derailment a broken rail was found on the west side of the track. This rail was broken into several pieces, three of which were recovered. From the north, in succession, the lengths of the three recovered pieces were 25 feet 8-1/8 inches, 3 feet 5-1/8 inches, and 11-13/16 inches. There was a portion between the second and the third pieces that was not recovered. The third piece of rail remained bolted in place. At the leaving end of this piece of rail, the head was broken out a distance of 7-1/4 inches. At the north end the head of the rail was battered downward a distance of about 5/8 inch. Small transverse fissures were found at

the break between the first and the second pieces, at the south end of the second piece, and at the north end of the third piece. None of the fissures extended to the surface of the rail. Flange marks on the pieces of rail which were recovered indicated that the section of rail immediately north of the third piece became displaced, and then the wheel flanges mounted the north end of the most southerly piece of rail.

The rail involved was rolled by the Illinois Steel Company in 1917, and bore heat number 30158-B. A rail-defect detector car was operated over this track on April 27, 1951, at which time two defective rails in the immediate vicinity were found. Another rail about 200 feet north of the point where the derailment occurred was removed on June 1 because of a fracture. It also bore heat number 30158, but there was no transverse fissure. Since January 1, 1951, three rails, all within 1 mile of the point where the derailment occurred, were removed because of split webs within the limits of the joint bars. The section foreman last inspected the track about 8 a. m. on the day before the accident occurred and no unusual condition was observed. A north-bound passenger train passed over the track about 1 hour 20 minutes before the accident occurred. The members of the crew observed no abnormal condition of the track at that time.

Cause

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

Dated at Washington, D. C., this twenty-ninth day of October, 1951.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.