

*INTERSTATE COMMERCE COMMISSION
WASHINGTON*

REPORT NO. 3667

THE PENNSYLVANIA RAILROAD COMPANY

IN RE ACCIDENT

NEAR NEVADA, OHIO, ON

SEPTEMBER 5, 1955

SUMMARY

Date: September 5, 1955

Railroad: Pennsylvania

Location: Nevada, Ohio

Kind of accident: Derailment and collision

Trains involved: Freight : Passenger

Train numbers: Extra 9765 East : 23

Locomotive numbers: Diesel-electric units 9765A, 9774B, 9641B, and 9818A : Diesel-electric units 5866A, 5856B, and 5865A

Consists: 135 cars, caboose : 19 cars

Estimated speeds: 35 m. p. h. : 70 m. p. h.

Operation: Signal indications

Tracks: Double; tangent; 0.38 percent ascending grade eastward

Weather: Clear

Time: 2:55 a. m.

Casualties: 85 injured

Cause: Broken coupler, and derailed cars obstructing adjacent main track in front of approaching train

INTERSTATE COMMERCE COMMISSION

REPORT NO. 6667

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

THE PENNSYLVANIA RAILROAD COMPANY

January 12, 1956

Accident near Nevada, Ohio, on September 5, 1955, caused
by a broken coupler, and by derailed cars obstruct-
ing an adjacent main track in front of an approaching
train.

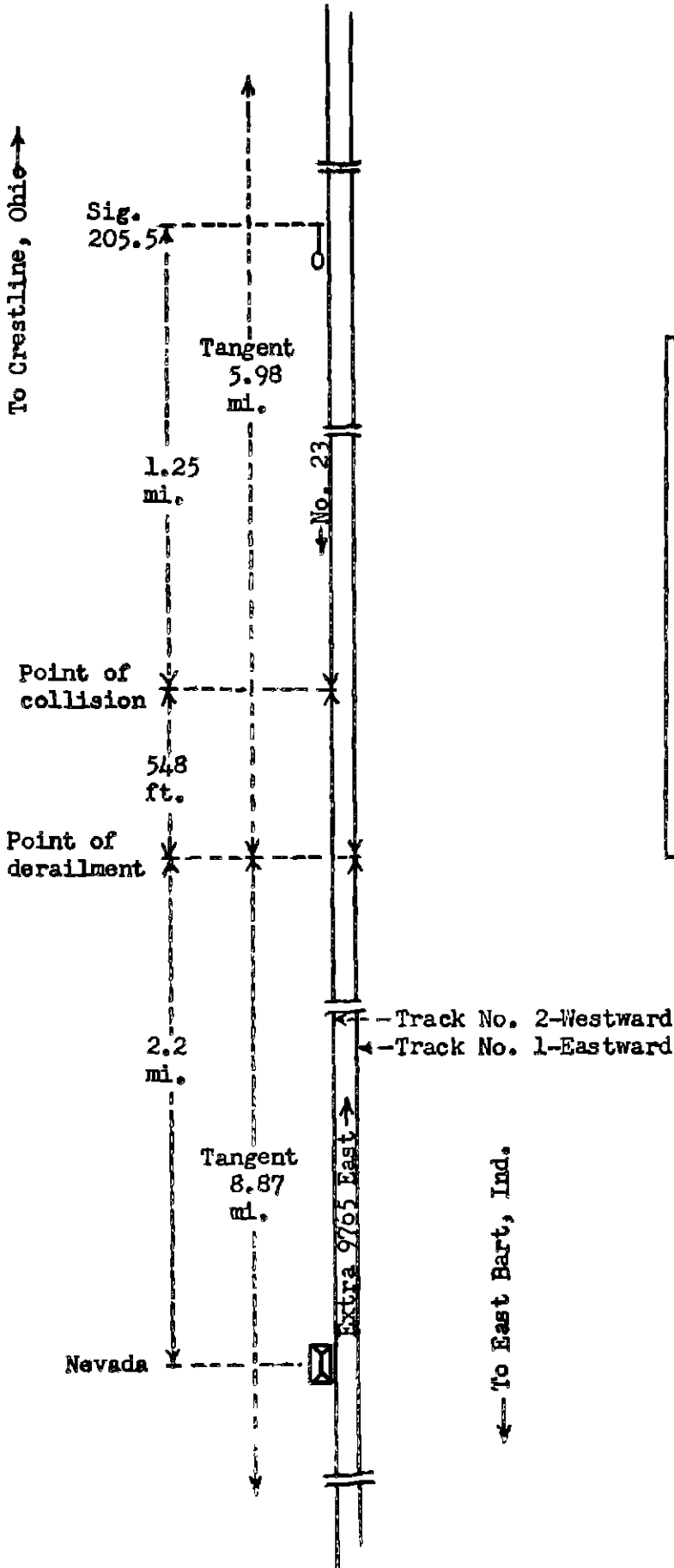
REPORT OF THE COMMISSION¹

CLARKE, Commissioner:

On September 5, 1955, there was a derailment of a freight train, and a collision between derailed cars of that train and a passenger train moving in the opposite direction on an adjacent main track, on the Pennsylvania Railroad near Nevada, Ohio, which resulted in the injury of 67 passengers, 4 Pullman Company employees, 2 dining-car employees, 6 railway mail clerks, and 6 train-service employees. This accident was investigated in conjunction with a representative of the Public Utilities Commission of Ohio

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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 Clarke for consideration and disposition.



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|---|----------------------|-----------|
| ● | Division Post | 1.7 mi. |
| ● | Crestline, Ohio | 12.2 mi. |
| ● | Colsan | 6.6 mi. |
| ⊗ | Point of accident | 2.2 mi. |
| ● | Nevada, | 8.3 mi. |
| ● | Upper Sandusky, Ohio | 102.4 mi. |
| ● | Fort Wayne, Ind. | 113.3 mi. |
| ● | Division Post | 0.1 mi. |
| ● | East Bart, Ind. | |

Report No. 3667
 Pennsylvania Railroad
 Nevada, Ohio
 September 5, 1955

Location of Accident and Method of Operation

This accident occurred on that part of the Fort Wayne Division extending between Division Post, near East Bart, Ind., and Division Post, near Crestline, Ohio, 246.7 miles. In the vicinity of the point of accident this is a double-track line, over which trains moving with the current of traffic are operated by signal indications. The main tracks from south to north are designated as No. 1, eastward, and No. 2, westward. The derailment occurred on track No. 1 at a point 226.3 miles east of East Bart and 2.2 miles east of the station at Nevada, Ohio, and the collision occurred on track No. 2 at a point 548 feet east of the point of derailment. The main tracks are tangent throughout a distance of 8.87 miles immediately west of the point of derailment and 5.98 miles eastward. The grade is 0.38 percent ascending eastward at the point of derailment.

In the vicinity of the point of accident the track structure of each main track consists of 131-pound rail, 39 feet in length, laid new in 1941 and 1942 on an average of 24 ties to the rail length. It is fully tieplated and is spiked with two rail-holding spikes and two plate-holding spikes per tie plate. It is provided with 6-hole 36-inch joint bars and an average of 10 rail anchors per rail. It is ballasted with stone to a depth of 18 inches below the bottoms of the ties. The main tracks are spaced 12 feet 10 inches between track centers.

Automatic signal 2055, governing west-bound movements on track No. 2, is located 1.25 miles east of the point of collision.

The maximum authorized speeds are 50 miles per hour for freight trains and 79 miles per hour for passenger trains.

Description of Accident

Extra 9765 East, an east-bound freight train, consisted of Diesel-electric units 9765A, 9774B, 9641B, and 9818A, coupled in multiple-unit control, 135 cars, and a caboose. This train passed Upper Sandusky, Ohio, 215.8 miles east of East Bart and the last open office, at 2:40 a. m., and while it was moving at an estimated speed of 35 miles per hour the twenty-eighth to thirty-second cars, inclusive, were derailed at a point 226.3 miles east of East Bart and 2.2 miles east of the station at Nevada. Derailed equipment obstructed track No. 2, and several seconds later this equipment was struck by No. 23.

No. 23, a west-bound first-class passenger train, consisted of Diesel-electric units 5866A, 5856B, and 5865A, coupled in multiple-unit control, two express cars, two baggage cars, one mail car, one express car, one baggage car, four coaches, one dining car, one coach, and six sleeping cars, in the order named. The ninth, fourteenth, fifteenth, sixteenth, and eighteenth cars were of lightweight steel construction, and the other cars were of conventional all-steel construction. The ninth to the sixteenth cars, inclusive, and the eighteenth car were equipped with tightlock couplers. This train passed Colgan, 6.6 miles east of the point of accident and the last open office, at 2:50 a. m., 3 minutes before the schedule time at that station, passed signal 2055, which indicated Proceed, and while moving at a speed of approximately 70 miles per hour it struck derailed equipment of Extra 9765 East.

Extra 9765 East stopped with the rear end of the twenty-seventh car 740 feet east of the point of derailment. The derailed cars were derailed to both sides of track No. 1. Two of these cars were destroyed, and two were badly damaged. With the exception of the nineteenth car and the rear trucks of the thirteenth, seventeenth, and eighteenth cars, the entire train of No. 23 was derailed. The first Diesel-electric unit stopped on its left side, at right angles to the tracks, with the front end toward the north. The front end was 164 feet west of the point of collision and 106 feet north of track No. 2. The second and third Diesel-electric units stopped upright and approximately in line, with the front end of the second unit near the rear end of the first unit, and the rear end of the third unit 22 feet north of track No. 2. With the exception of the first car, which stopped on its side, none of the derailed equipment overturned. The first 10 cars stopped in various positions on or near the tracks within a distance of approximately 280 feet. The other derailed cars stopped approximately in line with track No. 2. The first and third Diesel-electric units were badly damaged, and the second unit was somewhat damaged. The first, second, fifth, sixth, and seventh cars were destroyed; the third, fourth, eighth, ninth, and tenth cars were badly damaged; the eleventh car was considerably damaged; and the other derailed cars were slightly damaged.

The engineer, the fireman, the conductor, two brakemen, and the flagman of No. 23 were injured.

The weather was clear at the time of the accident, which occurred about 2:55 a. m.

S. P. 66201, the twenty-eighth car in the train of Extra 9765 East, is an all-steel box car. It was built in November 1947. The light weight is 49,600 pounds, the nominal capacity is 100,000 pounds, and the load limit is 119,400 pounds. It is equipped with friction draft gears with vertical cast steel swivel yokes, and with type E couplers with 6-1/4-inch by 8-inch swivel shanks. The couplers were manufactured in 1947. At the time of the accident the car was loaded with 51,800 pounds of lumber. It was loaded at Canby, Calif., and was destined to Pemberton, N. J.

Discussion

As Extra 9765 East was approaching the point where the accident occurred the speed was about 35 miles per hour. The enginemen were maintaining a lookout ahead from the control compartment at the front of the locomotive, the front brakeman was in the control compartment at the rear of the locomotive, and the conductor and the flagman were in the caboose. The members of the crew had gone on duty at Fort Wayne, Ind., 112.9 miles west of the point of accident, and they said that there had been no rough handling or unusual slack action between Fort Wayne and the point of accident. The engineer had used the dynamic brake to control the speed, but he had not used the automatic brakes. The members of the crew were unaware that anything was wrong until the brakes became applied in emergency as a result of the derailment. No. 23 was closely approaching on track No. 2 when the brakes of Extra 9765 East became applied, and the locomotive passed the locomotive of Extra 9765 East before the fireman of Extra 9765 East could light a fusee.

As No. 23 was approaching the point where the accident occurred the enginemen were maintaining a lookout ahead from the control compartment at the front of the locomotive. The members of the train crew were in various locations in the cars of the train. The brakes of the train had been tested and had functioned properly when used en route. The headlight was dimmed as this train approached Extra 9765 East. The enginemen of No. 23 said that immediately after their locomotive passed the locomotive of Extra 9765 East they saw sparks and dust flying along the side of that train. The engineer immediately made an emergency application of the brakes. According to the tape of the speed-recording device No. 23 approached the point of collision at a speed of 70 miles per hour. The speed was not materially reduced before the collision occurred.

After the accident occurred it was found that the coupler had broken off the A, or east, end of S.P. 66201, the twenty-eighth car of Extra 9765 East, and had fallen to the track. The bottom portion of the shank was broken through the pin hole 3-1/8 inches from the swivel end, and the top portion was broken off 10-1/8 inches from the swivel end. The swivel end of the top portion was still attached to the yoke. The first mark on the track structure was on a tie in the center of track No. 1. This mark was about 3 inches in width. Approximately 3 feet east of this mark there was a second mark on the west edge of a tie near the center of the track. This mark was heavy and smooth. Approximately 9 feet east of the latter mark a tie was heavily gouged on the gage side of the north rail. The first flange mark on the ties appeared on the gage side of the north rail at a point approximately 11 feet east of the tie which had been gouged. The coupler was found 20 feet east of the first flange mark and between the rails of track No. 1. From these marks it appears that after the coupler fell to the track it was pushed eastward and became wedged against a tie in such manner that it raised the front truck of the car sufficiently to derail it.

According to the report of the engineer of tests of the carrier, the primary failure of the coupler occurred through the pin hole. These breaks appeared to be approximately 100 percent progressive fractures, but the surfaces were so badly rubbed the origin of fracture could not be determined. The secondary failure occurred on the opposite side of the swivel and showed approximately 60 percent rapid progressive fracture originating at the corners. The remaining 40 percent of the fracture was sudden. It was the opinion of the engineer of tests that the cause of the failure was the presence of numerous blowholes in the casting. According to his report the exact origin of primary fracture could not be determined, but the presence of large blowholes on the fracture face and porosity which acted as the origins for cracks found in the unbroken pin hole would indicate the probability of primary fracture originating at blowholes. The fractures occurred in locations in which they could not readily be detected by routine inspection while the coupler was in place in the car.

Cause

This accident was caused by a broken coupler, and by derailed cars obstructing an adjacent main track in front of an approaching train.

Dated at Washington, D. C., this twelfth day of January, 1956.

By the Commission, Commissioner Clarke.

HAROLD D. McCOY,

(SEAL)

SECRETARY.