

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 3222
THE PENNSYLVANIA RAILROAD COMPANY
REPORT IN RE ACCIDENT
AT FREEDOM, PA., ON
DECEMBER 24, 1948

SUMMARY

Railroad: Pennsylvania
Date: December 24, 1948
Location: Freedom, Pa.
Kind of accident: Collision
Trains involved: Freight : Passenger
Train numbers: Extra 9513 East : Passenger Extra
5380 East
Engine numbers: Diesel-electric : 5380
units 9513A,
9521B, 9567A
Consists: 87 cars, cabooses : 13 cars
Estimated speeds: 7 m. p. h. : 20 m. p. h.
Operation: Signal indications
Tracks: Four; eastward tracks: 1°29'
curve; 0.08 percent ascending
grade eastward
Weather: Clear
Time: 6:05 p. m.
Casualties: 2 killed; 1 injured
Cause: Failure to provide protection for
derailed cars which fouled adjacent
main track

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3922

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

THE PENNSYLVANIA RAILROAD COMPANY

February 28, 1949

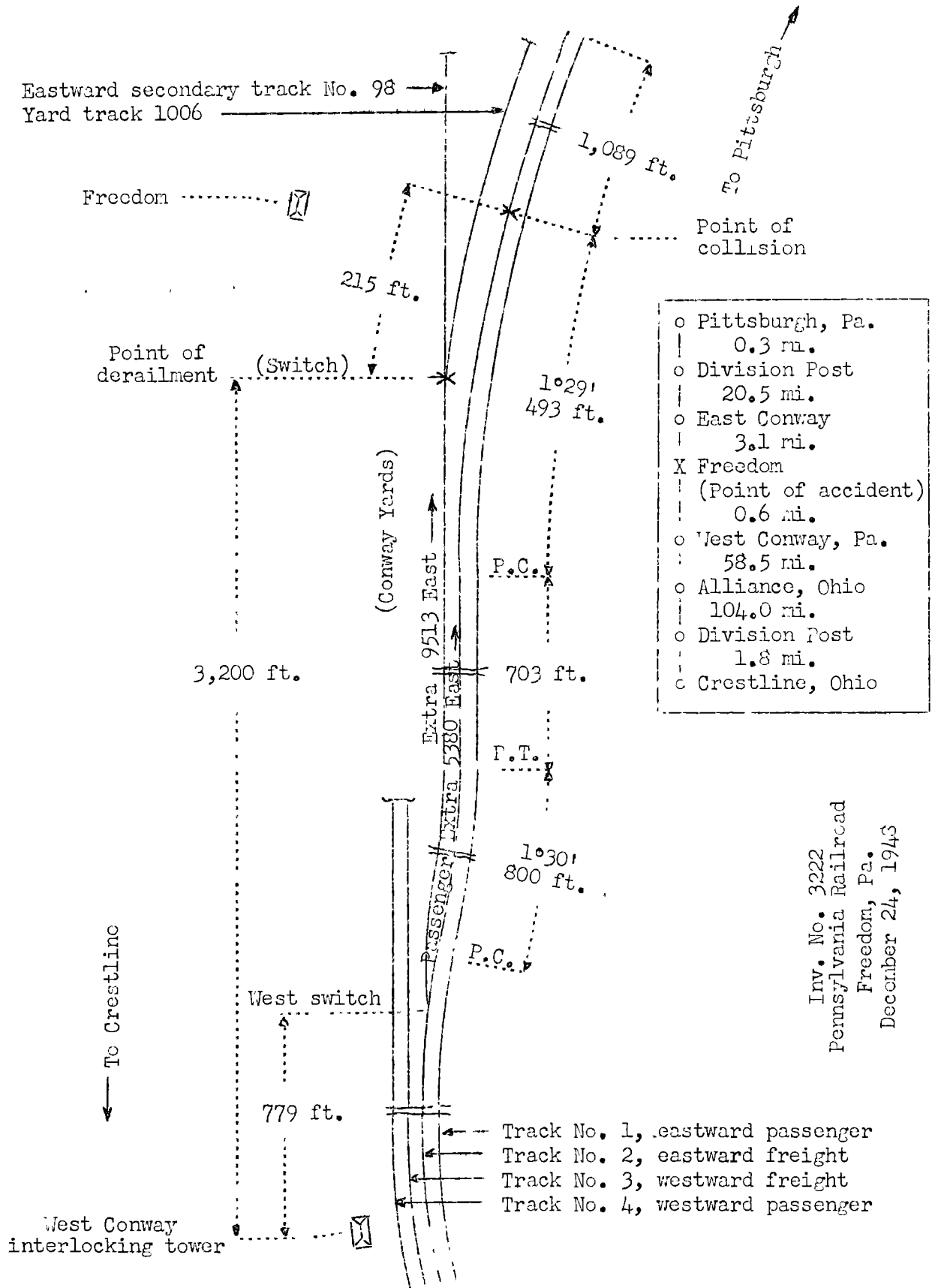
Accident at Freedom, Pa., on December 24, 1948, caused
by failure to provide protection for derailed cars
which fouled adjacent main track.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On December 24, 1948, a derailed car of a freight train was struck by a passenger train on the Pennsylvania Railroad at Freedom, Pa., which resulted in the death of two train-service employees, and the injury of one train-service employee. This accident was investigated in conjunction with a representative of the Pennsylvania Public Utility 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.



- | | | |
|---|------------------|---------------------|
| o | Pittsburgh, Pa. | 0.3 mi. |
| o | Division Post | 20.5 mi. |
| o | East Conway | 3.1 mi. |
| X | Freedom | (Point of accident) |
| | | 0.6 mi. |
| o | West Conway, Pa. | 58.5 mi. |
| o | Alliance, Ohio | 104.0 mi. |
| o | Division Post | 1.8 mi. |
| o | Crestline, Ohio | |

Inv. No. 3222
 Pennsylvania Railroad
 Freedom, Pa.
 December 24, 1943

- Track No. 1, eastward passenger
- Track No. 2, eastward freight
- Track No. 3, westward freight
- Track No. 4, westward passenger

Location of Accident and Method of Operation

This accident occurred on that part of the Eastern Division extending between Division Post, Crestline, Ohio, and Division Post, Pittsburgh, Pa., 186.7 miles. In the vicinity of the point of accident this is a four-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 passenger; No. 2, eastward freight; No. 3, westward freight; and No. 4, westward passenger. At West Conway, 164.3 miles east of Crestline, these main tracks diverge around Conway Yards, which extend 3.7 miles eastward. Tracks Nos. 3 and 4 parallel the north side of the yards, and tracks Nos. 1 and 2 parallel the south side. Between West Conway and East Conway, respectively, 0.6 mile west and 3.1 miles east of Freedom, eastward secondary track No. 98 parallels track No. 2 on the north. The west switch of secondary track No. 98 is located in track No. 2 at a point 779 feet east of West Conway interlocking tower. Movements on this secondary track are authorized in accordance with operating rules applicable to secondary tracks and timetable instructions.

At the point of derailment, 3,200 feet east of West Conway tower and almost opposite the station at Freedom, yard track 1006 diverges from secondary track No. 98 toward the south. This track is entered from secondary track No. 98 through a facing-point, right-hand, No. 10 turnout. The switch of this turnout consists of two 18-foot 130-pound switch rails, fully braced and spiked, connected by two switch rods and operated by a seven-foot throw rod. It is operated from a hand-throw switchstand located on the north side of track No. 98. The switchstand is equipped with an oil-burning switch lamp. It displays a green light and white discs when the switch is lined for movement on track No. 98 and a yellow light and yellow discs when the switch is lined for a diverging movement. The freight train was moving eastward on secondary track No. 98, and the passenger extra was moving eastward on track No. 2. The derailment of the freight train occurred at the point of switch of yard track 1006, and the collision of the passenger train with the derailed freight car occurred on track No. 2, at a point 215 feet east of the point of derailment. From the west on track No. 2, there are, in succession, a 1°30' curve to the left 800 feet in length, a tangent 703 feet and a 1°29' curve to the right 493 feet to the point of collision and 1,089 feet eastward. The grade on track No. 2 is 0.08 percent ascending eastward at the point of accident. The alignment and grade of secondary track No. 98 approximates that of track No. 2 to the point of derailment.

Eastward movements through West Conway interlocking are governed by signals mounted on a bridge located 528 feet west of West Conway tower.

This carrier's operating rules read in part as follows:

DEFINITIONS

* * *

Reduced Speed--Prepared to stop short of train or obstruction.

* * *

35. The following signals will be used by flagmen:

* * *

Night Signals--A red light, torpedoes and fuses.

99. When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection, placing two torpedoes, and when necessary, in addition, displaying lighted fuses.

* * *

102. When a train is disabled or stopped suddenly by an emergency application of the air brakes or other causes, adjacent tracks * * * that are liable to be obstructed must be protected at once in both directions until it is ascertained they are safe and clear for the movement of trains.

105a. Unless otherwise provided, trains and engines using a secondary track must proceed at Reduced speed unless the track upon which the movement is to be made is seen or known to be clear and switches properly lined.

* * *

Timetable Special Instructions read in part as follows:

2203. Secondary Tracks of Assigned Direction

Track	From	To	Assigned Direction	Controlled by	* * *
* * *	* * *	* * *	* * *	* * *	
No. 98	West Conway	East Conway	Eastward	Yard Master Conway	
* * *	* * *	* * *	* * *	* * *	

The maximum authorized speed was 25 miles per hour for trains moving on secondary track No. 98, and 40 miles per hour for trains moving on track No. 2.

Description of Accident

Extra 9513 East, an east-bound freight train, consisted of Diesel-electric units 9513A, 9521B and 9567A, coupled in multiple-unit control, 37 cars and a caboose. This train passed West Conway interlocking tower, the last open office, at 5:48 p. m., entered secondary track No. 98, and while moving at an estimated speed of 7 miles per hour the twenty-third to the twenty-seventh cars, inclusive, were derailed at the point of switch of yard track 1006. These cars stopped in various positions on and across secondary track No. 98 and other yard tracks. The twenty-sixth car obstructed track No. 2. About 17 minutes after the derailment occurred, the twenty-sixth car was struck by Passenger Extra 5380 East.

Passenger Extra 5380 East, an east-bound mail and express train, consisted of engine 5380, one box-express car, three baggage cars, two box-express cars, one refrigerator-express car, one box-express car, two baggage cars, one refrigerator-express car, one box-express car and one coach, in the order named. These cars were of all-steel construction. This train departed from Crestline at 1:04 p. m., passed West Conway, the last open office, at 6:04 p. m., and, while moving on track No. 2 at an estimated speed of 20 miles per hour, it struck a derailed car of Extra 9513 East.

Engine 5380 stopped on its right side on track No. 1. The cab was demolished. Separations occurred between the engine and the tender, between the tender and the first car,

and between the first and second cars. The tender was torn loose and stopped on its left side, across both main tracks and against the cab of the engine. The first car stopped upright, off its trucks, and diagonally across both main tracks. It fouled yard track 1006. The second car, also off its trucks, stopped upright on track No. 2. The front truck of the third car was derailed, and this car stopped upright and parallel to track No. 2. All of the derailed equipment was badly damaged.

The engineer and the fireman of Passenger Extra 5380 East were killed, and a brakeman of this train was injured.

The weather was clear and it was dark at the time of the derailment and the collision, which occurred, respectively, at 5:48 p. m. and 6:05 p. m.

Discussion

As Extra 9513 East approached West Conway the headlight was lighted brightly, the engineer and the fireman were maintaining a lookout ahead from their respective stations in the control compartment of the first Diesel-electric unit, the front brakeman was in the third unit and the conductor and the flagman were in the caboose. At West Conway this train entered track No. 98 from track No. 2, and was moving on track No. 98 at an estimated speed of 7 miles per hour when the twenty-third to the twenty-seventh cars, inclusive, were derailed at the point of switch of yard track 1006. The air brakes were applied in emergency as a result of separations in the train. The train stopped with the caboose just clear of track No. 2.

The investigation disclosed that about 1:20 p. m. a maintenance-of-way crane entered yard track 1006 from track No. 98. When the conductor attempted to close the switch for normal movement on track No. 98, he noticed that the No. 1 switch rod was broken on the south side and that the south switch point did not fit tightly against the stock rail. He pried the point over and the brakeman spiked it tightly against the stock rail for normal movement on track No. 98. The spike was driven approximately half way into the tie and at an angle of about 45 degrees. The brakeman then notified the yard dispatcher, by telephone, of the condition of the switch and advised him to have a maintenance-of-way employee examine it. The yard dispatcher instructed a switch tender, on duty at that location, to inform a maintenance-of-way

employee about the defective switch. Neither the switch tender nor the yard dispatcher made further effort to inform anyone about the defective switch, and the yard dispatcher did not make a notation on his yard sheet to indicate that this switch was defective. The yard dispatcher on duty after 3 p. m. had no knowledge that this switch was defective until after the accident occurred.

Between 1:20 p. m., when the switch was spiked, and 4:24 p. m., five east-bound trains passed over this switch. About 5:30 p. m. a member of a yard-engine crew attempted to throw this switch. He found it spiked and restored the switch lever to normal position. After the accident occurred the south switch point at the spiked location was found to be open about 3/4-inch, and flange marks indicated that wheels had entered between the switch point and the south stock rail.

The operator at West Conway recorded Extra 9513 East as clearing track No. 2 at 5:48 p. m. All members of the crew of this train said that prior to this time the engine and the cars had been riding smoothly. The brakes had been tested at Crestline and they had functioned properly en route. The engineer said the train stopped gradually and he thought the air had been applied from the rear. He therefore instructed the front brakeman to proceed toward the rear of the train to determine the cause of the stop. The front brakeman proceeded westward on the north side of the train and found five cars derailed, but made no examination as to their condition and did not cross over to the south side of the train to determine if any cars were obstructing the adjacent tracks. He then returned to the front end of the train and informed a yard conductor of the derailment. They then went to a yard office, about 100 feet west of the engine, and informed the yard dispatcher of the derailment. The yard dispatcher instructed them to detach the cars ahead of those which were derailed and to place them on another yard track. The yard conductor then proceeded westward to uncouple the cars. At 6:12 p. m., after the cars were detached, the engineer, the fireman and the front brakeman proceeded eastward with the front portion of their train. None of the crew of Extra 9513 East heard any unusual noise, and they did not know until some time later that Passenger Extra 5880 East had struck the derailed car several minutes before the front portion of their train started to move eastward, although the yard conductor observed that the collision had occurred when he detached the front portion of the train.

When Extra 9513 East stopped, the flagman was standing on the rear platform of the caboose and the conductor was seated at his desk inside the caboose. The flagman said that after several minutes had elapsed he entered the caboose and observed that the air-pressure gauge registered a pressure of 10 pounds. When he informed the conductor of this reading, the conductor left the caboose immediately and went to a yard telephone, where he talked with the yard master to determine the cause of the stop. When informed that the engineer had not applied the brakes to stop the train, the conductor then proceeded along the north side of the train until he reached the point of derailment, where he found that Passenger Extra 5380 East had struck one of the derailed cars. During this time the flagman did not leave the caboose. The conductor and the flagman of Extra 9513 East said that the train stopped without any run-in of slack and that they had no reason to think it was an emergency stop, and therefore did not protect the adjoining tracks. Although the enginemen of this train thought the brakes had become applied in emergency, they did not provide protection on adjacent tracks, as required by the rules, but assumed the brakes had been applied from the caboose.

As Passenger Extra 5380 East was approaching West Conway the speed was about 20 miles per hour. The air brakes had been tested at Crestline and had functioned properly en route. West of Alliance, Ohio, 56.5 miles west of West Conway, this train had been stopped because of a ruptured brake-pipe hose between the tender and the first car. The crew made temporary repairs by coupling brake-pipe hose to air-signal hose at each end of the first car, thus transmitting brake-pipe pressure to the rear 12 cars. The train proceeded with the air brakes of these 12 cars operative to the point of the collision. The surviving members of the crew said that the cars were riding smoothly prior to the time of the collision, and the first they knew of anything being wrong was when the brakes were applied in emergency. The collision occurred immediately afterward. Examination after the accident disclosed that the throttle was open and the automatic brake valve was in emergency position.

Cause

It is found that this accident was caused by failure to provide protection for derailed cars which fouled an adjacent main track.

Dated at Washington, D. C., this twenty-eighth day of February, 1949.

(SEAL) By the Commission, Commissioner Patterson.
W. P. BARTEL,
Secretary.