

RAILROAD ACCIDENT INVESTIGATION

Report No 3764

THE BALTIMORE AND OHIO RAILROAD COMPANY

DILLSBORO, IND

JUNE 7, 1957

INTERSTATE COMMERCE COMMISSION

Washington

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SUMMARY

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DATE	June 7, 1957
RAILROAD	Baltimore and Ohio
LOCATION	Dillsboro, Ind
KIND OF ACCIDENT	Derailment
TRAIN INVOLVED	Freight
TRAIN NUMBER	88
LOCOMOTIVE NUMBER	Diesel-electric units 4444 and 4445
CONSIST	59 cars, caboose
SPEED	65 m p h
OPERATION	Timetable, train orders, and automatic block-signal system
TRACKS	Double, 0°58' curve, 0.60 percent descending grade eastward
WEATHER	Clear
TIME	11 39 a m
CASUALTIES	2 injured
CAUSE	Speed in excess of that for which track was maintained

INTERSTATE COMMERCE COMMISSION

REPORT NO 3764

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

THE BALTIMORE AND OHIO RAILROAD COMPANY

November 4, 1957

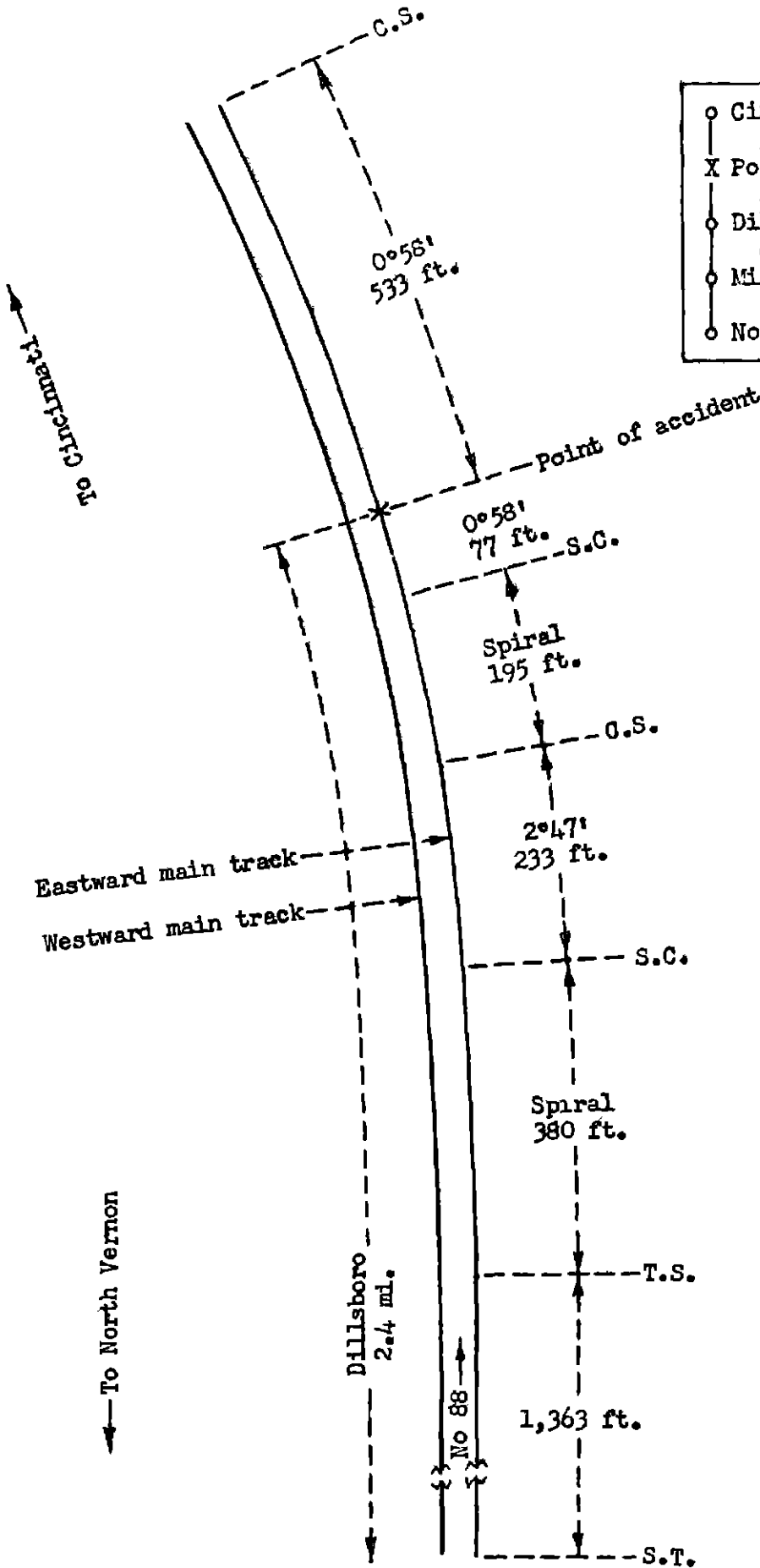
Accident near Dillsboro, Ind , on June 7, 1957, caused by speed in excess of that for which track was maintained

REPORT OF THE COMMISSION¹

TUGGLE, Commissioner

On June 7, 1957, there was a derailment of a freight train on the Baltimore and Ohio Railroad near Dillsboro, Ind , which resulted in the injury of two train-service employees

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



o Cincinnati, Ohio	31.5 mi.
X Point of accident	2.4 mi.
o Dillsboro, Ind.	8.7 mi.
o Milan	30.1 mi.
o North Vernon, Ind.	

← To North Vernon

The Baltimore and Ohio Railroad
 Dillsboro, Ind.
 June 7, 1957

Location of Accident and Method of Operation

This accident occurred on that part of the St. Louis Division extending between North Vernon, Ind., and Cincinnati, Ohio, 72.7 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 timetable, train orders, and an automatic block-signal system. The accident occurred on the eastward main track at a point 4.2 miles east of North Vernon and 2.4 miles east of the station at Dillsboro, Ind. From the west there are, in succession, a tangent 1,363 feet in length, a compound curve to the left consisting of a spiral 380 feet, a 2°47' curve 233 feet, a spiral 195 feet, and a 0°58' curve 77 feet to the point of the accident and 533 feet eastward. The grade is 0.60 percent descending eastward at the point of accident.

The track structure consists of 115-pound rail, 39 feet in length, laid new in 1950 on an average of 24 treated ties to the rail length. It is fully tieplated with double-shoulder canted tie plates, single-spiked, and is provided with 6-hole, 36-inch joint bars and an average of 9 rail anchors per rail. It is ballasted with crushed slag to a depth of 8 to 10 inches below the bottoms of the ties. The specified super-elevation of the curve on which the accident occurred is 1½ inches.

The maximum authorized speed for freight trains in the vicinity of the accident is 35 miles per hour.

Description of Accident

No. 88, an east-bound second-class freight train, consisted of diesel-electric units 4444 and 4445, coupled in multiple-unit control, 59 cars, and a caboose. This train departed from North Vernon at 10:31 a. m., 1 hour 16 minutes late, passed Milan, Ind., 30.1 miles east of North Vernon, the last open office, at 11:22 a. m., 57 minutes late, and while moving on a 0°58' curve to the left at a speed of about 65 miles per hour, the rear truck of the 57th car, all trucks of the 58th car, the 59th car, and the caboose were derailed at a point 2.4 miles east of Dillsboro.

Separations occurred between the 58th and 59th cars, and between the 59th car and the caboose. The rear truck of the 57th car was torn from the car, and the front truck was derailed. This car struck a bridge abutment 2,312 feet east of the point of initial derailment, and, as a result, the rear truck of the 56th car was derailed. The 57th car stopped with the rear end 2,196 feet east of the point of initial derailment. The 58th and 59th cars stopped on the track structure about 840 feet and 790 feet, respectively, east of the point of initial derailment. The caboose stopped about 540 feet east of the point of initial derailment and 20 feet south of the track. The 59th car was destroyed. The 57th and the 58th cars, and the caboose were heavily damaged. The 56th car was slightly damaged.

The conductor and the flagman were injured.

The weather was clear at the time of the accident, which occurred about 11:39 a. m.

C & O 5299, the 57th car of No. 88, is an all steel box car. It was built in July 1937. It is 41 feet 9 inches long, 10 feet 5 inches wide and 14 feet 7 inches high. The lightweight, nominal capacity, and load limit are, respectively, 47,500 pounds, 100,000 pounds, and 121,500

pounds. The inside height of the car is 10 feet and the width is 9 feet 2 inches. When the accident occurred the car was loaded with lumber to within 18 inches of the roof. The weight of the lading was 63,100 pounds. The trucks are of the four-wheel type and are provided with 5½-inch by 10-inch journals, cast-steel side frames with integral journal boxes, and filler-block type side bearings.

Discussion

On the day before the accident occurred, a car of an east-bound freight train was derailed in the vicinity of the point of accident and the track structure was damaged. The track was inspected for gage and alignment while repairs were being made and it was found to conform to the carrier's requirements. Repairs to the track structure were completed before the accident occurred except for the renewal of some of the damaged ties. When the accident occurred, several ties that were replaced in the immediate vicinity of the point of accident had been tamped and had tie plates in place but spikes were not applied. None of these ties was adjacent. Three section foremen said that shortly before the accident occurred they observed the track as No. 64, an east-bound first-class passenger train, and as an east-bound locomotive proceeded on the curve on which the accident occurred, and that it appeared to be secure.

As No. 88 was approaching the point where the accident occurred, the enginemen and the brakeman were in the control compartment of the first diesel-electric unit, and the conductor and the flagman were in the caboose. The brakes of this train had been tested and had functioned properly when used en route. The engineer said that he checked the indication of the speed-recording device en route by determining the time required for the train to move throughout a measured distance and that the device indicated a speed of 40 miles per hour when the train was moving at a speed of 35 miles per hour. The fireman said that he obtained practically the same results when he checked the indication of the speed-recording device at a different location. Both the engineer and the fireman said that the first they became aware of anything being wrong was when the brakes became applied in emergency as a result of the derailment. They said the speed-recording device indicated that the train was moving at a speed of 45 miles per hour at that time. The brakeman said that there was an unusual vertical movement of the first diesel-electric unit as it proceeded on the curve on which the derailment occurred. The conductor said that the caboose lurched excessively several times immediately before the derailment occurred.

Repairs to the track structure were completed before the Commission's representatives arrived. However, examination of the track structure at that time disclosed that the first marks of derailment were a flange mark crossing the north rail and a corresponding tread mark crossing the south rail, indicating that a pair of wheels had become derailed to the north by a rocking motion of the car. The carrier's report disclosed that the track was moved slightly out of line to the south throughout a distance of about 120 feet west of the first marks of derailment. Measurements taken by the carrier immediately west of that point indicated that there were material variations in cross levels. The track structure was destroyed throughout a distance of several hundred feet from a point approximately 30 feet east of the first marks of derailment.

Examination of the trucks of the 57th car after the accident occurred disclosed that three of the four side-bearing filler blocks were missing. These blocks were later found. There was no indication that any of the filler blocks were defective. Examination of the other equipment of No. 88 disclosed no defects which could have caused or contributed to the cause of the accident. Examination of the tape of the speed-recording device of the first diesel-electric unit disclosed that the recorded speed of the train was 52 miles per hour when the accident occurred. The speed-

recording device was removed and calibrated. For speeds corresponding to train speeds of 8 miles per hour, 32 miles per hour, and 56 miles per hour, it was found that the speed-recording device registered speeds of 7 miles per hour, 27 miles per hour, and 43 miles per hour, respectively. It is evident that for a recorded speed of 52 miles per hour the speed of the train would be at least 65 miles per hour.

Train No. 88 was moving at a speed of about 65 miles per hour in territory where the maximum authorized speed was 35 miles per hour. It is apparent that because of speed in excess of that for which the track was maintained a rocking motion was set up and, as a result, the left front wheel of the rear truck of the 57th car was raised a sufficient distance to permit the pair of wheels to derail to the north.

Cause

This accident was caused by speed in excess of that for which track was maintained.

Dated at Washington, D. C., this fourth
day of November, 1957

By the Commission, Commissioner Tuggle

(SFAL)

HAROLD D. McCOY,
Secretary