Inv-2070

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE

CHICAGO, INDIANAPOLIS & LOUISVILLE RAILWAY

PUTNAMVILLE, IND.

JUNE 12, 1936.

INVESTIGATION NO. 2070

SUMMARY

Railroad:	Chicago, Indianapolis & Louisville.
Date:	June 12, 1936.
Location:	Putnamville, Ind.
Kind of accident:	Derailment.
Train involved:	Freight.
Train number:	No. 56.
Engine number:	576.
Consist:	41 cars.
Speed:	20-25 m.p.h. at initial point of derailment and 35-40 m.p.h. at final point, 4,556 feet beyond.
Track:	3° curve and descending grade at initial point of derailment and 1°59' curve and ascending grade at final point.
Weather:	Clear.
Time:	5:10 p.m.
Casualties:	3 killed and 4 injured.
Cause:	Unknown.

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July 10, 1936.

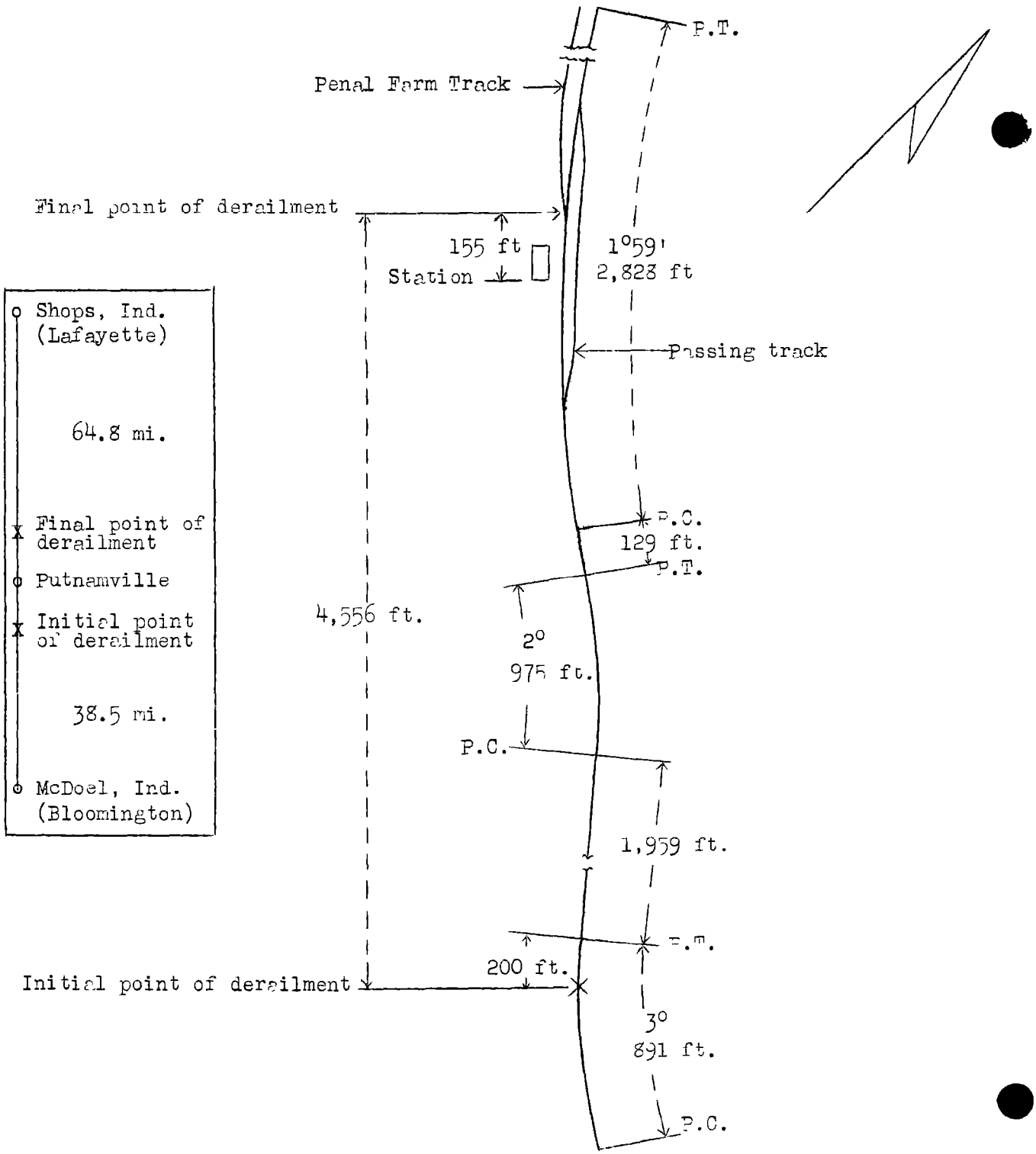
To the Commission:

On June 12, 1936, there was a derailment of a freight train on the Chicago, Indianapolis & Louisville Railway at Putnamville, Ind., which resulted in the death of 2 employees and 1 trespasser, and the injury of 2 employees and 2 trespassers. The investigation of this accident was made in conjunction with a representative of the Public Service Commission of Indiana.

Location and method of operation

This accident occurred on the Fourth Sub-division of the Southern Division, which extends between Shops (Lafayette), and McDoel (Bloomington), Ind., a distance of 103.3 miles. This is a single-track line over which trains are operated by time table, train orders and an automatic block-signal system. The initial derailment occurred at a point 4,401 feet south of the station at Putnamville, while the final derailment occurred 155 feet north of the station, at a facing-point switch leading to the Penal Farm track on the left. Approaching from the south there is a 3° curve to the right 891 feet in length, the initial derailment occurring on this curve at a point 200 feet from its northern end. The track is then tangent for a distance of 1,959 feet, followed by a 2° curve to the left 975 feet in length, tangent track for a distance of 129 feet and then a 1°59' curve to the right 2,828 feet in length, the final derailment occurring on this latter curve at a point 1,288 feet from its southern end. The grade for north-bound trains is generally descending for several miles, it being 0.33 percent descending at the initial point of derailment and for a distance of 550 feet beyond, where it changes to an ascending grade and is 0.84 percent ascending at the final point of derailment.

The track is laid with 100-pound rails, 39 feet in length, with 24 treated oak ties to the rail length, single-spiked and fully tieplated on curves and bridges; 8 rail anchors are used to the rail length. The track is ballasted with crushed stone to a depth of 9 inches on top of 28 inches of gravel ballast and is well maintained. A passing track parallels the main track on the east in the vicinity of the station, the south switch being located 485 feet south of the final point of derailment.



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Permanent speed restrictions not shown in the time table are designated by speed boards. The initial point of derailment occurred within speed restricted territory of 25 miles per hour, the restriction board being located approximately 2 miles south thereof and the resume-speed board being located 175 feet north thereof, this latter board governing the territory up to and beyond the final point of accident.

The weather was clear at the time of the accident, which occurred about 5:10 p.m.

Description

Train No. 56, a north-bound second-class freight train, consisted of 32 loaded and 8 empty cars and a caboose, hauled by engine 576, of the 2-8-2 type, and was in charge of Conductor Goforth and Engineman Eker. This train departed from Wallace Junction, 11 miles south of Putnamville, at 4:45 p.m., according to the train sheet, 2 hours 4 minutes late, and was approaching Putnamville when it was derailed while traveling at a speed estimated to have been between 20 and 25 miles per hour. The speed at the time of final derailment, however, was between 35 and 40 miles per hour.

The engine, tender, and first 16 cars were derailed. The engine and tender remained coupled and stopped on their right sides practically at right angles to the track, 304 feet beyond the final point of derailment, with the tender on the Penal Farm track. Fifteen cars stopped within a distance of 250 feet, in various positions on the main, passing, and Penal Farm tracks, seven of them being destroyed; the sixteenth car remained upright with the front truck derailed. The employees killed were the engineman and head brakeman and the employees injured were the fireman and conductor.

Summary of evidence

Conductor Goforth stated that he was on the engine leaving Wallace Junction and stood behind the engineman. The engineman made several applications of the air brakes on the descending grade approaching Putnamville, reducing speed in accordance with the restriction board, and the speed was about 20 miles per hour when he released the brakes and started using steam. He noticed nothing unusual in the performance of the engine and he did not feel a jar at any time. Conductor Goforth further stated that had the engine struck anything on the rails or track he would have noticed it. In the vicinity of an overhead bridge located about 1,200 feet south of the station he noticed that a cylinder cock on the engine was open and he

looked out but saw nothing wrong. The engine was working a heavy throttle, and the speed was about 35 miles per hour on approaching the south switch of the passing track. On passing this switch the engineman put his head out of the window and then applied the air brakes in emergency and reversed the engine.

Flagman Foley stated that he noticed two applications of the air brakes on descending the Cloverdale hill south of Putnamville, the final release of the brakes being made about the time the caboose passed mile post 185, approximately 1 mile south of the point of accident, at which time the speed was about 20 miles per hour, and on rounding the curve on which the initial derailment occurred, at the foot of the grade, the speed was about 25 miles per hour, and was increased to between 30 and 40 miles per hour at the time of the final derailment.

Section Foreman Hayes, in charge of the section on which the accident occurred, arrived at the scene of accident soon after its occurrence. He found a broken bolt in the north end of an angle bar on the east rail near the initial point of derailment, which in his opinion was broken by the derailed engine-truck wheel. He found nothing to indicate that there had been any obstruction on the track at the time the engine truck became derailed. He measured the track for gauge and elevation and found it to be in good condition, with a 4-inch superelevation. His last inspection had been made on the day of the accident, at which time he rode slowly over the track on his motor car. Within the last few weeks prior to the accident, he had lined the track, but had not experienced any trouble from soft spots or low joints in the vicinity of the initial point of derailment.

Roadmaster Koontz stated that his inspection of the track soon after the accident revealed a light mark about 8 inches in length in the center of the west rail at a point about 10 feet south of the first mark on the ties, but he was unable to say whether it had been made by a wheel flange. It was his opinion that the wheels dropped off without mounting the ball of the rail. The marks on the ties were not deep; they were about 5 or 6 inches from the gauge side of the east rail and those on the outside of the west rail were even less pronounced than the marks near the east rail. It was his opinion that the cellar box was to some extent carrying the weight of the engine truck. A guard rail on the bridge located about 1,700 feet north of the initial point of derailment had been pushed from 1/4 to 1/2 inch out of position and the track north thereof had been knocked out of line in several places from 1/2 to 3/4 inch. The next damage appeared at the south passing track switch where the tie rod was bent and the switch was open 1 inch. Roadmaster

Koontz stated that he did not think the accident was caused by excessive speed. The track was safe for a speed of 50 miles per hour, and the various speed boards had been in place for about 6 years, the speed restrictions being necessary due to descending grade and sharp curves.

Road Foreman of Engines Martin examined the engine soon after the accident; he found the engine truck covered with mud and dirt and the flange of the left engine truck wheel bore a deep groove where it had apparently struck something and the outside edge of this wheel had the appearance of having rubbed against a rail, and the bottom of the journal box indicated that it had ridden the rail, apparently from the Penal Farm switch. Examination of the right journal box after dirt had been removed, showed that it had also ridden on the rail, probably from the initial point of derailment. The reverse lever was found in reverse position, the brake valve in emergency position and the throttle appeared to be slightly open, indicating that it had been in drifting position. During his inspection of the track he observed a mark on the ball of the west rail which might have been caused by a flange, although at the time of his inspection several trains had passed over the track since the accident and the mark did not appear newly made. It appeared to him, however, that the flange struck the ball of the rail or struck some object on the rail and then dropped upon the ties. There were marks on the spike heads and tie-plates, on the west side of the west rail for a short distance, followed by marks on the ties.

Master Mechanic Strubel stated that he arrived at the scene of accident about 2 hours after its occurrence and examined the engine, but could find nothing that would have caused the derailment. His inspection of the track at the initial point of derailment disclosed an abrasion about 18 inches in length in the center of the ball of the west rail which he thought might have been made by a spike on the rail, although nothing was found to support this theory. Another theory advanced by Master Mechanic Strubel was that possibly when the throttle was opened to resume speed, the jerk incident to the stretching out of slack may have caused the front end of the engine to rise slightly, and when it settled down the engine truck wheels missed the rails. He said the first marks appeared on the ties to the left of the rails, and that nearest the east rail was about 5 inches from the base of the rail and approximately 1/4 inch deep. The height of the rail is 6 inches and as the engine truck boxes are approximately 5 inches above the rail, and the wheel flange 1¼ inch deep, it was his opinion that the right journal box rode the east rail from the initial point of derailment which accounted for the slight marks on the ties; if such were the case, however, he said he thought the engineman should have noticed that there was something wrong.

Engine 576 came out of the shop on May 22, 1936, after having received class 5 repairs, which included the machinery, boiler, and driving and engine truck wheels, and the engine had traveled a total of 3,861 miles since that date. The engine was given a thorough pit inspection before leaving McDoel roundhouse on the morning of the accident, and nothing was found to be wrong and no report was made of any repairs.

Signal Maintainer Leisure stated that when he inspected the track shortly after the accident he found three broken bond wires; one near the initial point of derailment, one near Deer Creek bridge and another just south of the overhead bridge, which is located approximately 1,300 feet south of the final point of derailment.

Examination of the track by the Commission's inspectors disclosed a flange mark on the ties inside of the east rail and also a corresponding mark on the ties outside of the west rail; the rail joint immediately south of the first flange mark had a bolt broken in its northern end. The flange marks on the ties along the inside of the east rail were from 6 to 8 inches from the base of the rail and quite pronounced, while the marks on the outside of the west rail were about 2 inches from the base of the rail and were very light; these marks continued northward in this manner to the south switch of the passing track where the wheels of the engine truck were diverted slightly to the left on encountering the frog, and on encountering the facing-point switch leading to the Penal Farm track the final derailment occurred. From the marks on the ties and near the rail joint it appeared that the wheels of the engine truck dropped off the rails and from that point northward the journal box rode on the east rail for a distance of 4,071 feet. At a point 10 feet south of the first flange marks on the ties there was a slight mark 8 inches in length and not more than 1/16 inch in width, on the surface of the left rail in about the center of the ball. This mark may have been made by a wheel flange, although the pitted condition on the surface of the rail, in and surrounding it, indicated an old mark and did not give the appearance of having been recently made. There was no evidence of dragging equipment either south or north of the initial point of derailment.

Information was furnished to the effect that engine 576 is a 2-8-2 type with weight on engine trucks of 28,000 pounds; weight on drivers 252,000 pounds; weight on trailing truck 54,500 pounds; the weight of the engine truck itself is about 8,000 pounds. With the wheels of the engine truck on the ties and the journal box on the rails, the weight usually supported by the truck wheels would be thrown on the drivers, and the only weight on the derailed wheels and the journal box would be approximately the weight of the engine truck.

Inspection of the engine, tender and cars involved, disclosed nothing that could have contributed to the cause of the derailment.

Discussion

The evidence indicates that the engine truck wheels were derailed and the train then traveled a distance of 4,071 feet and the derailed wheels encountered the south passing track switch before the engine crew became aware of the derailment. The initial point of derailment was located within restricted speed territory of 25 miles per hour, and there is no evidence that the train was operated at excessive speed, the engineman apparently having made brake applications on the descending grade, reducing the speed to about 20 miles per hour and on leaving the curve on which the initial derailment occurred the speed was slightly increased.

Examination of track and equipment involved failed to reveal anything that might have contributed to the cause of the accident, and there was nothing to indicate that there had been an obstruction on the track While there was an abrasion on the west rail just south of the first mark found on the ties, it was impossible to say whether it was a flange mark, and the evidence indicates that it was probably an old mark and not made at the time of the accident.

Conclusion

The cause of this accident was not definitely determined.

Respectfully submitted,

W. J. PATTERSON,

Director.