Inv-2082

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE

MISSOURI PACIFIC RAILROAD

MYRTLE, ARK.

JULY 14, 1936

INVESTIGATION NO. 2082

SUMMARY

Railroad:	Missouri Pacific
Date:	July 14, 1936
Location:	Myrtle, Ark.
Kind of accident:	Derailment
Train involved:	Freight
Train number:	No. 261
Engine number:	1567
Consist:	31 cars
Speed:	32-35 miles per hour
Track:	6^{o} curve to the left and 1.0 percent descending grade.
Weather:	Clear
Time:	6:20 a.m.
Casualties:	2 killed
Cause:	Broken rail

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August 25, 1936.

To the Commission:

On July 14, 1936, there was a derailment of a freight train on the Missouri Pacific Railroad near Myrtle, Ark., which resulted in the death of two employees.

Location and method of operation

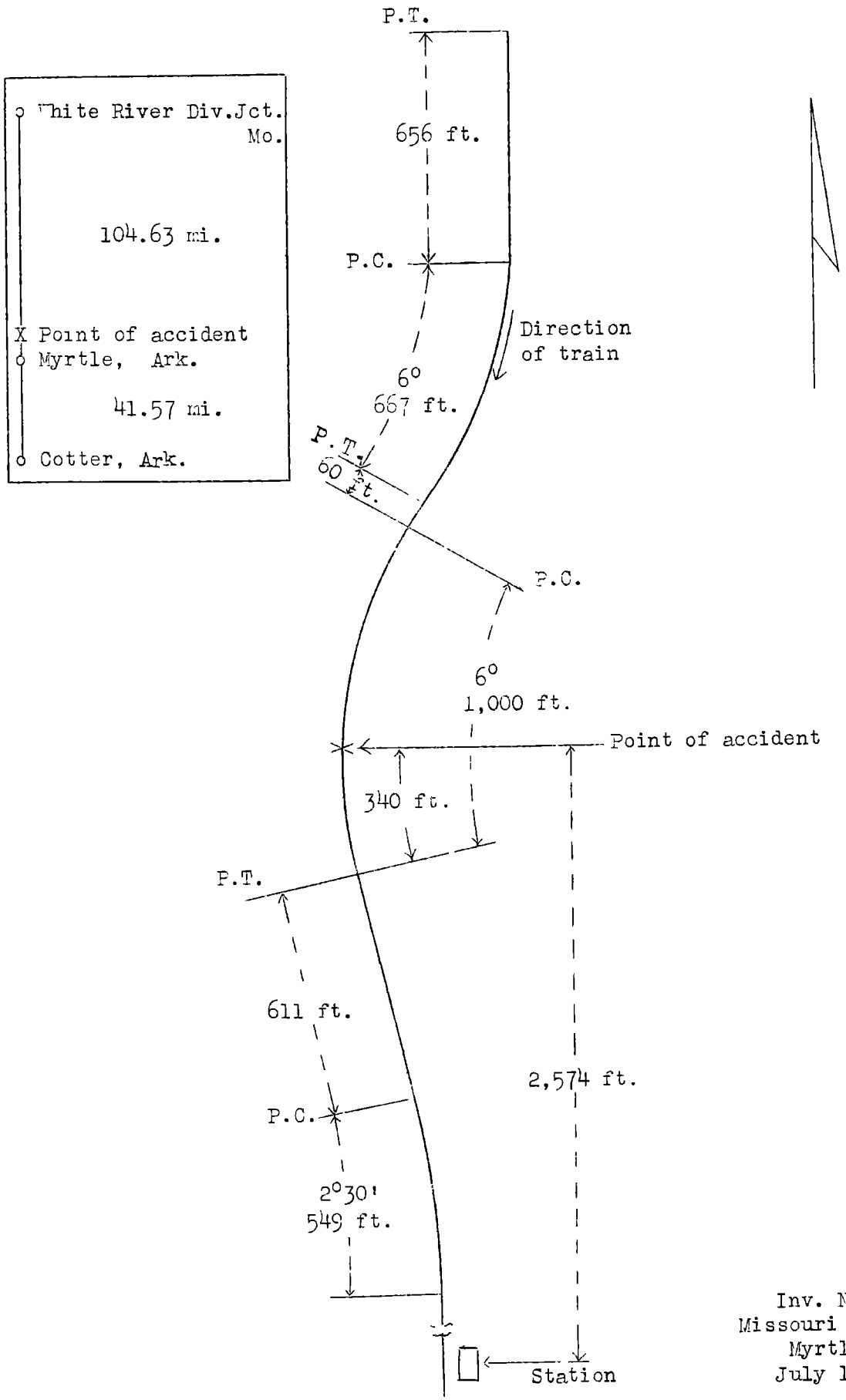
This accident occurred on the Carthage District of the Joplin and White River Divisions, which extends between White River Division Junction, Mo., and Cotter, Ark., a distance of 146.2 miles; in the vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders, no form of block-signal system being in use. The accident occurred at a point 2,574 feet north of the station at Myrtle; approaching this point from the north there is a series of curves and short tangents, the accident occurring on a 6° curve to the left 1,000 feet in length, at a point 340 feet from its southern end. The grade for south-bound trains varies from 0.84 to 1.0 percent descending, it being 1.0 percent at the point of accident.

The track is laid with 85-pound rails, 33 feet in length, with 20 ties to the rail length, single-spiked and fully tie-plated; 6 rail anchors are used to the rail length. The track is ballasted with gravel to a depth of from 8 to 10 inches below the ties and is fairly well maintained. At the point of derailment the track is laid through a cut on the side of a hill, with a solid rock wall on the west side of the track about 10 feet from the center line of track. The maximum speed allowed for freight trains is 40 miles per hour.

The weather was clear at the time of the accident, which occurred about 6:20 a.m.

Description

Train No. 261, a south-bound freight train, consisted of 30 cars and a caboose, hauled by engine 1567, and was in charge of Conductor Pinkley and Engineman Watson. This train departed from Crane, Mo., 54.67 miles from Myrtle, at 4:35 a.m., according to the train sheet, 1 hour 5 minutes late, passed Cricket, Ark., 9.54 miles from Myrtle at 6:02 a.m., 43 minutes late, and was derailed on approaching Myrtle while traveling at a speed estimated to have been about 35 miles per hour.



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The engine, tender, first twelve cars and the front truck of the thirteenth car were derailed. The engine was derailed to the right, and stopped parallel with the track, and leaned against the rock wall at an angle of 45°, approximately 214 feet beyond the point of derailment. The tender stopped behind the engine at an angle of about 60° to the track. Six cars rolled down the embankment, stopping at the foot of the hill 90 feet below the track; nine cars were destroyed and the other derailed cars were badly damaged. None of the remaining equipment in the train was derailed or damaged. The employees killed were the engineman and fireman.

Summary of evidence

Head Brakeman Stuhlmiller stated that he was in the brakeman's cabin on the tender and he noticed that the engineman applied the air brakes on practically all the sharp curves, the last application being made on approaching the curve on which the accident occurred, and about 15 seconds afterward the engine truck became derailed. He noticed nothing unusual prior to this time and did not think that when the last brake application was made the engineman had any intimation that an accident was imminent. He estimated the speed of the train to have been 32 or 35 miles per hour at the time of the accident. The brakes had been tested before leaving Crane and were found to be working properly. After the accident he found a broken rail on the west side of the track. Brakeman Stuhlmiller also rode on Train No. 270, the last train to pass over this track, about 10 hours prior to the accident, at which time nothing unusual was noted.

Conductor Pinkley stated that he was in the caboose prior to the accident and noticed nothing wrong with the track, which seemed to be in good condition. The brakes operated properly when they were applied to control the speed of the train en route, and he noticed an application of the air brakes a short time prior to the derailment. The speed of the train was about 35 miles per hour when a sudden impact occurred and the caboose stopped within a distance of about 2 pole lengths. Upon inspecting the track at the point of derailment he found a rail broken about 3 feet from the receiving end, this 3-foot piece remaining in the track. The next piece broken out, which in his opinion was defective, was about 2 feet in length. Other broken pieces were found along the track but this was the only rail found broken. The statements of Middle Brakeman Huffman and Flagman Parsons brought out nothing additional of importance.

Section Foreman Talburt, in charge of the section on which the accident occurred, stated that he arrived at the

scene of the accident about 2 hours after its occurrence, and on examining the broken rail he found a transverse fissure. On the day prior to the accident he was over the track twice and saw nothing wrong. The last work performed on the track at the point of accident was when he renewed some ties and lined and surfaced the track from 30 to 60 days previously.

Division Engineer Smith stated that on his arrival at the scene of accident, several hours after its occurrence, the track had not been disturbed in any way. On examining the piece of broken rail remaining in the track he found a transverse fissure, having an area of between 20 and 25 percent of the head of the rail, but it did not extend to the surface at any point. The defect was on the gauge side of the outside rail at a point 25 5/8 inches from the north or receiving end. Nineteen pieces of the rail were found, but there were at least two pieces missing, representing about 3.8 feet of the rail; no defects were found at any of the other breaks and the metal at the breaks was of fine grain and apparently good material. It was his opinion that the pony trucks of engine 1567 were first derailed and that the rail actually broke under Train No. 270 which passed northward over this track on the previous evening, and that the portion of the rail beyond the transverse fissure was broken by the driving wheels of engine 1567 after the engine truck became derailed. There appeared to be some movement between the ends of the first break, indicated by smooth spots on the end of the rail which also indicated that when the rail broke, the ends remained in close contact, preventing any unusual noise being heard by anyone on Train No. 270. It also appeared that northbound Train No. 270 had exerted some pressure on the rail just north of the break, forcing it slightly out of line, making a lip at the break, and that the engine-truck wheels of the south-bound train mounted the rail at the lip; a mark across the head of the rail indicated that a wheel had mounted at that point. The wear of the broken rail represented about 10 percent of the head, about 1/8 inch off the top and 1/4 inch off the gauge side, the gauge wear gradually diminishing at the lower edge. The rail involved was an 85-pound, Missouri Pacific section rail, rolled by the Tennessee Coal and Iron Company, in July, 1904; heat number 6923. The rail, which had been turned, had been in service since 1907. Division Engineer Smith further stated that he walked over the track for about 1 mile north of the point of derailment and found the track to be in good condition. Measurements of gauge, line, and surface for a distance of 650 feet north of the point of accident showed the superelevation of the outside rail on the curve to be 6 inches, with a maximum variation of 1/2 inch; the variation in gauge was only 1/4 inch, and the curvature was uniform. A Sperry rail detector car had been operated

over the White River Division periodically since 1931, there having been found from 3 to 7 transverse fissures during each year up to and including 1935. The Sperry car was last operated over this division in May, 1936, at which time only two transverse fissures were found on the entire division.

Master Mechanic Kling stated that he examined engine 1567 and its tender at Myrtle after they were derailed and found all wheels and flanges in good condition, with slight flange wear on the front driving wheels; the lateral was not excessive and he found no defects in the running gear that would have caused or contributed to the accident.

Statements of the members of the crew of north-bound Train No. 270, the last train to pass over the track at point of derailment prior to the accident, revealed that they did not notice anything wrong with the track, or anything unusual in the riding of the train in the vicinity of the point of accident. The train passed Myrtle about 8:45 p.m. the preceding evening.

Examination of the broken rail by the Commission's inspectors disclosed the defective condition as described by Division Engineer Smith. The fissure, having an area of about 20 or 25 percent of the rail head, measured 1 3/16 inches horizontally and 7/8 inch vertically, and was located on the gauge side of the head, its nearest point to the surface being 1/8 inch from the flange side of the ball of the rail; it extended to 5/32 inch from the top surface of the head, 7/8 inch from the side surface of the head on the outside of the curve, and 7/16 inch from the under surface of the head on the gauge side of the rail. There was a pronounced bruise or dent on the receiving end of the piece of rail at the transverse fissure. Examination of engine 1567 as well as inspection of the track disclosed no defective condition that could have caused or contributed to the cause of the accident.

Discussion

Examination of the track after the accident disclosed that the rail on the west side had broken into approximately 19 pieces, the first break being due to a transverse fissure covering an area of about 20 or 25 percent of the head of the rail. The remaining fractures did not reveal any defects, and it is believed that they were a result of the accident. There appeared to have been some movement between the pieces at the first break as shown by worn spots on the ends, indicating that when the rail broke the ends remained in contact. It is believed that this rail first broke under Train No. 270 when it passed over the track, north-bound, on the evening prior

to the accident, and that this train forced the piece of rail just north of the break slightly out of line, causing a lip at the break, which permitted the right front engine-truck wheel of engine 1567 to mount the rail. A mark across the head of the rail indicated that a wheel had mounted at that point.

Conclusion

This accident was caused by a broken rail, due to a transverse fissure.

Respectfully submitted,

W. J. PATTERSON,

Director.