

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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INVESTIGATION NO. 2660  
THE MISSOURI PACIFIC RAILROAD COMPANY  
REPORT IN RE ACCIDENT  
NEAR HORTON, MO., ON  
DECEMBER 12, 1942

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SUMMARY

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Railroad: Missouri Pacific  
Date: December 12, 1942  
Location: Horton, Mo.  
Kind of accident: Derailment  
Train involved: Passenger  
Train number: First 231  
Engine number: 6603  
Consist: 9 cars  
Speed: 50-55 m. p. h.  
Operation: Timetable and train orders  
Track: Single; 2°30' right curve;  
grade level  
Weather: Partly cloudy  
Time: About 10:32 a. m.  
Casualties: 2 killed; 16 injured  
Cause: Accident caused by broken rail,  
as result of presence of  
transverse fissures

INTERSTATE COMMERCE COMMISSION

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INVESTIGATION NO. 2660

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

THE MISSOURI PACIFIC RAILROAD COMPANY

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February 2, 1943.

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Accident near Horton, Mo., on December 12, 1942, caused  
by broken rail, as result of presence of transverse  
fissures.

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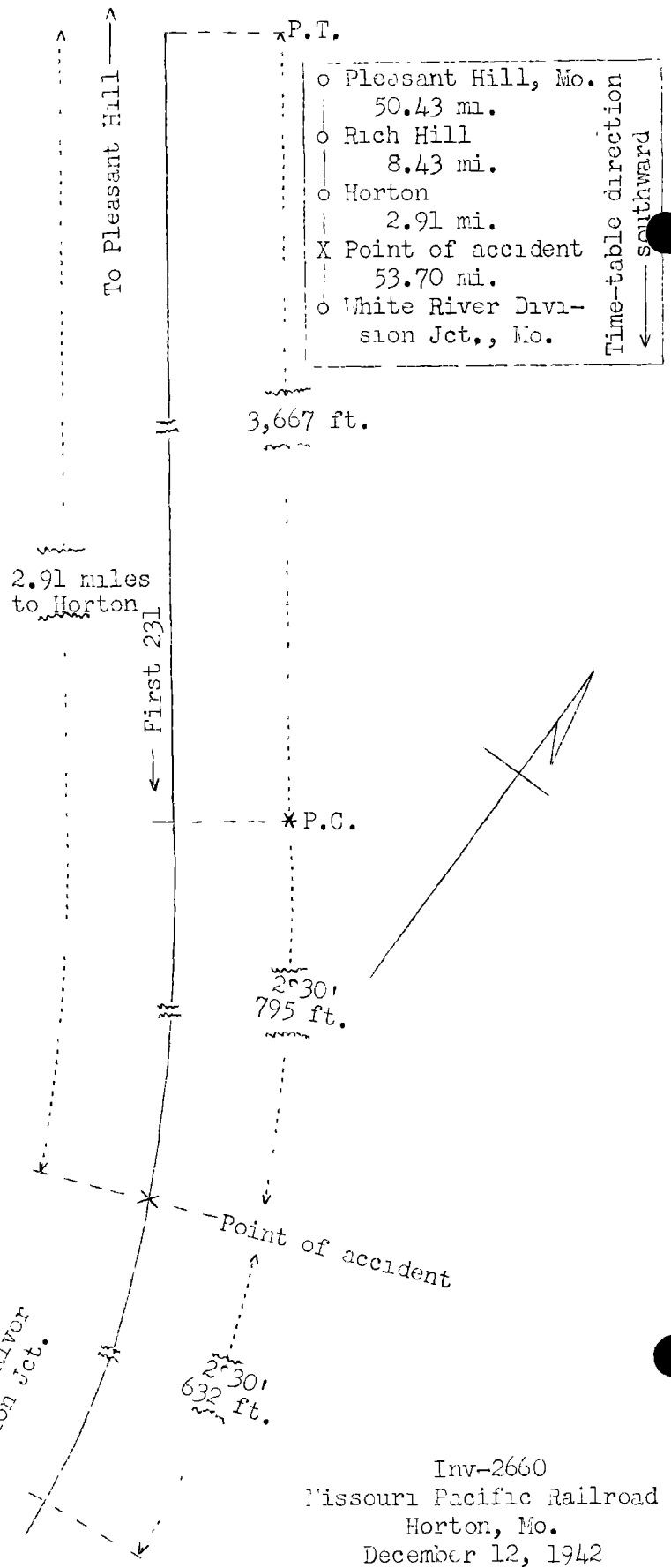
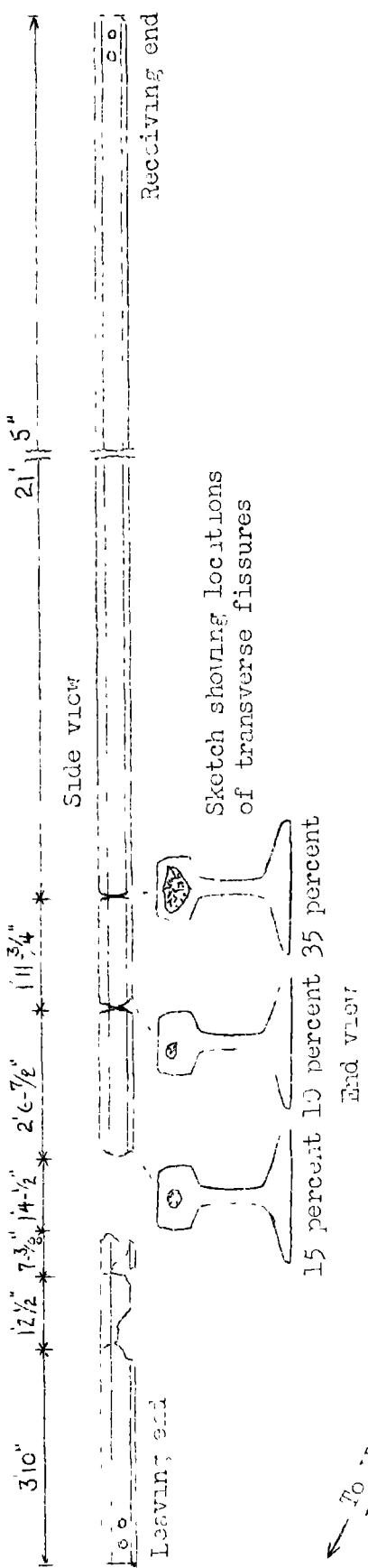
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REPORT OF THE COMMISSION

PATTERSON, Commissioner:

On December 12, 1942, there was a derailment of a  
passenger train on the Missouri Pacific Railroad near  
Horton, Mo., which resulted in the death of 2 passengers,  
and the injury of 14 passengers, 1 Pullman employee and 1  
train-service employee.

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<sup>1</sup>Under authority of section 17 (2) of the Interstate Com-  
merce Act the above-entitled proceeding was referred by the  
Commission to Commissioner Patterson for consideration and  
disposition.



Inv-2660  
 Missouri Pacific Railroad  
 Horton, Mo.  
 December 12, 1942

Location of Accident and Method of Operation

This accident occurred on that part of the Joplin Division designated as the Pleasant Hill Subdivision and extending between Pleasant Hill and White River Division Jct., Mo., a distance of 115.47 miles. In the immediate vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders. There is no block system in use. The accident occurred at a point 2.91 miles south of the station at Horton. Approaching from the north there is a tangent 3,667 feet in length, which is followed by a 2°30' curve to the right 795 feet to the point of accident and 632 feet beyond. The grade for south-bound trains is level throughout a distance of 4,000 feet to the point of accident.

On the curve involved the track is laid on a fill 12 to 15 feet in height. The track structure consists of 85-pound rail, 33 feet in length, rolled and laid in 1911, and is provided with 20 treated ties to the rail length; it is fully tieplated, single-spiked and equipped with 4-hole angle bars and six rail anchors to each rail, and is ballasted with cnat and crushed rock to a depth of 20 inches. At the point of accident the superelevation is 5 inches.

The maximum authorized speed for passenger trains is 35 miles per hour.

Description of Accident

First 231, a south-bound first-class passenger train, consisted of engine 6603, of the 4-6-2 type, one express car, one tourist car, two coaches, one baggage car, three coaches and one tourist car, in the order named. All cars were of all-steel construction except the fifth car, which was of steel underframe and wooden superstructure construction. After a terminal air-brake test was made this train departed from Pleasant Hill, 58.86 miles north of Horton, at 9:03 a. m., according to the dispatcher's record of movement of trains, 18 minutes late, departed from Rich Hill, 8.43 miles north of Horton and the last open office, at 10:15 a. m., 22 minutes late, and while moving at an estimated speed of 50 to 55 miles per hour it was derailed at a point 2.91 miles south of Horton.

The engine, tender and first two cars were not derailed, and stopped with the front end of the engine about 2,000 feet south of the point of accident. The third car was not derailed

but was separated from the second car and stopped with its front end about 700 feet north of the rear end of the second car. The fourth car remained coupled to the third car and was derailed and stopped, slightly damaged, upright and with its front end on the roadbed and its rear end just east of the track. The fifth car was destroyed, and the debris stopped down the embankment and about 415 feet south of the point of accident. The sixth to the ninth cars, inclusive, remained coupled, were derailed to the east, and headed down the embankment, with the front end of the sixth car 35 feet east of the track and 377 feet south of the point of accident, and the rear end of the ninth car on the roadbed and 65 feet south of the point of accident. These cars were damaged.

It was partly cloudy at the time of the accident, which occurred about 10:32 a. m.

The train-service employee injured was the front brakeman.

#### Data

The rail involved was a 33-foot, 35-pound rail, manufactured by the Colorado Fuel & Iron Company in June, 1911, and laid in the track during the same year. The heat number was 2850, Letter A.

During the 30-day period preceding the day of the accident, the average daily movement in the vicinity of the point of accident was 15.9 trains.

#### Discussion

First 231 was moving at a speed of about 55 miles per hour in territory where the maximum authorized speed was 35 miles per hour. Prior to the time of the accident, the engine and the cars were riding smoothly. There was no indication of defective track or equipment, or of any obstruction on the track. The engineer and a road foreman of engines were maintaining a lookout from the right side of the engine. The fireman was tending the fire. When his train entered the curve involved the engineer was looking toward the rear of his train, then the brakes became applied in emergency, and he observed simultaneously that several cars were derailed. He immediately placed the brake valve in lap position and the train stopped within a distance of about 2,000 feet. The front brakeman, who was in the fourth car, felt a sudden lurch, and immediately afterward the brakes became applied in emergency.

The conductor and the flagman, who were in the rear car, did not know of the derailment until that car began to sway and to lurch.

After the accident a broken rail was found on the east side of the track. The rail was broken into several pieces, six of which were recovered. The first break occurred at a point 21 feet 5 inches south of the receiving end of the rail. At the first break there was a transverse fissure covering about 35 percent of the cross-sectional area of the head of the rail. At the second and third breaks, which occurred at points 23 feet 4-3/4 inches and 25 feet 11-5/8 inches south of the receiving end of the rail, there were transverse fissures covering, respectively, 10 percent and 15 percent of the cross-sectional area of the head. None of these fissures had progressed to the outer surface of the head of the rail. Starting at a point approximately 7 feet south of the first break, wheel marks appeared on the ties 2 inches inside the gage side of the west rail and continued southward a distance of about 785 feet to the point where the fourth car stopped. Since no abnormal condition of the track was felt when the front portion of First 231 passed the point where the accident occurred, it is apparent that the rail broke under the train.

About 2 hours prior to the time the accident occurred, the track at the point involved was inspected by the section foreman and no defective condition was found. A detector car was last operated over the track involved on November 9, 1942.

#### Cause

It is found that this accident was caused by a broken rail, as a result of the presence of transverse fissures.

Dated at Washington, D. C., this second day of February, 1943.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,  
Secretary.