

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3298
THE MICHIGAN CENTRAL RAILROAD COMPANY
IN RE ACCIDENT
NEAR RICHLAND JCT., MICH., ON
OCTOBER 27, 1949

SUMMARY

Date: October 27, 1949
Railroad: Michigan Central
Location: Richland Jct., Mich.
Kind of accident: Derailment
Train involved: Freight
Train number: Extra 6909 South
Engine number: 6909
Consist: 13 cars, cabooses
Estimated speed: 15 m. p. h.
Operation: Timetable, train orders and
manual-block system
Track: Single; tangent; 0.75 percent
descending grade southward
Weather: Clear
Time: About 12:20 a. m.
Casualties: 2 killed; 1 injured
Cause: Inadequately maintained track

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3298

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

THE MICHIGAN CENTRAL RAILROAD COMPANY

January 13, 1950

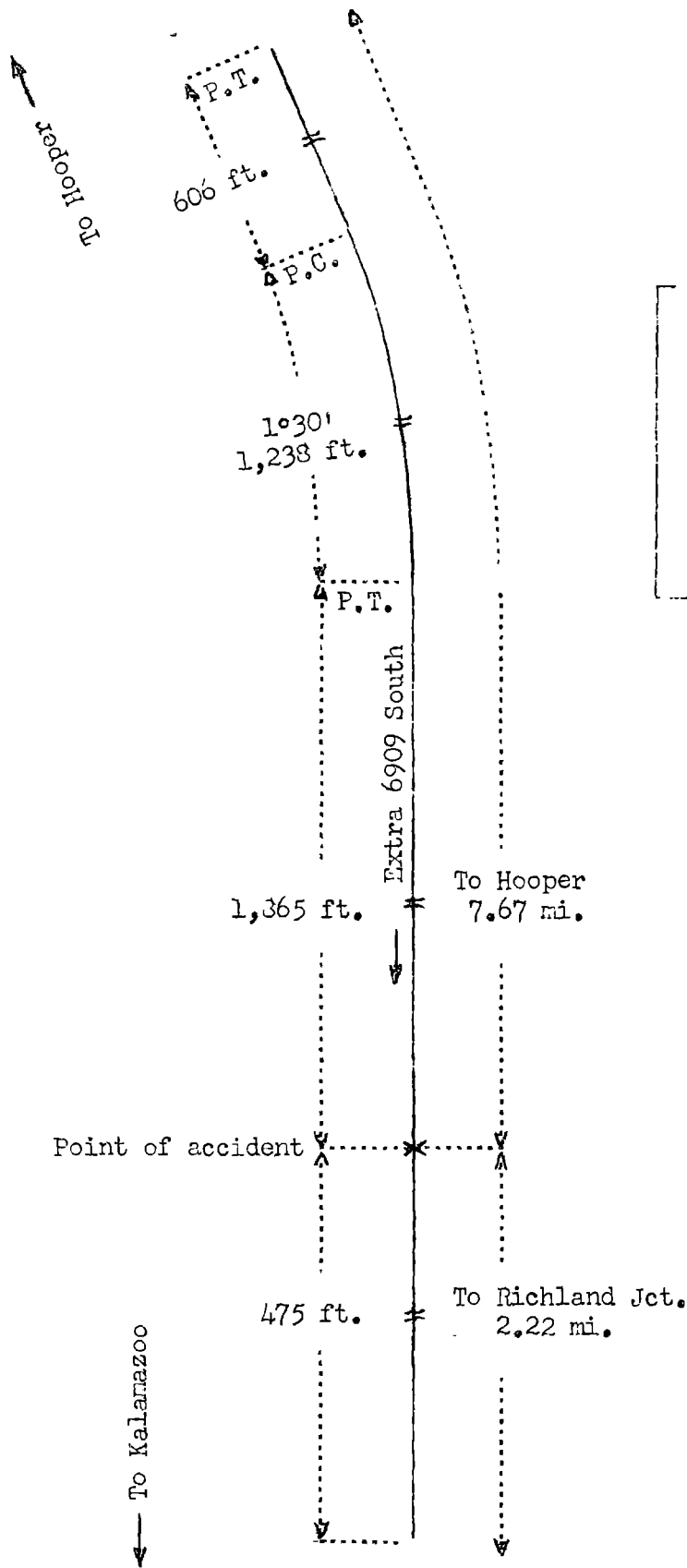
Accident near Richland Jct., Mich., on October 27, 1949,
caused by inadequately maintained track.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On October 27, 1949, there was a derailment of a freight train on the Michigan Central Railroad near Richland Jct., Mich., which resulted in the death of two employees, and the injury of one employee. This accident was investigated in conjunction with a representative of the Michigan Public Service 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 | Hooper, Mich. |
| | 4.10 mi. |
| o | Doster |
| | 3.57 mi. |
| X | Point of accident |
| | 2.22 mi. |
| o | Richland Jct. |
| | 8.88 mi. |
| o | Kalamazoo, Mich. |

Report No. 3298
 Michigan Central Railroad
 Richland Jct., Mich.
 October 27, 1949

Location of Accident and Method of Operation

This accident occurred on that part of the Michigan Division extending between Hooper and Kalamazoo, Mich., 18.77 miles, a single-track line, over which trains are operated by timetable, train orders and a manual-block system. The accident occurred on the main track 7.67 miles south of Hooper and 2.22 miles north of Richland Jct. From the north there are, in succession, a tangent 606 feet in length, a 1°30' curve to the right 1,238 feet, and a tangent 1,865 feet to the point of accident and 475 feet southward. The grade for south-bound trains is, successively, about 1 percent ascending 1.45 miles, 0.65 percent descending 1,000 feet, 1.02 percent ascending 3,557 feet, and 0.85 percent descending 3,974 feet to the point of accident, where it is 0.75 percent descending.

At the point of accident, the track structure consists of 80-pound rail, 33 feet in length, laid in its present location in 1915 on an average of 18 ties to the rail length, of which about 80 percent are treated. It is provided with 4-hole 24-inch continuous joint bars, is fully tieplated and is single-spiked. Rail anchors are not used. The structure is ballasted with gravel to a depth of 8 inches below the bottoms of the ties. In the vicinity of the point of accident the track is laid on a fill 900 feet in length and varying in height between 13.9 feet and 24 feet.

The maximum authorized speed for the train involved was 15 miles per hour.

Description of Accident

Extra 6909 South, a south-bound freight train, consisted of engine 6909, an O-6-0 type, 13 cars and a caboose. This train departed from Doster, 3.57 miles north of the point of accident, at 12 o'clock midnight, and while it was moving at an estimated speed of 15 miles per hour on tangent track the engine, the tender, the first five cars and the front truck of the sixth car were derailed at a point 2.22 miles north of Richland Jct.

The engine was derailed to the east and stopped on its right side, at the bottom of the fill and 259 feet south of the point of derailment. The front end was headed northeast at an angle of 45 degrees to the track, and was 43 feet east of the center-line of the track. The tender remained coupled to the engine and stopped upright, parallel to the track and

15 feet from its center-line. The engine and the tender were badly damaged. The derailed cars stopped in various positions on and along the track and were somewhat damaged. The track was destroyed throughout a distance of approximately 260 feet south of the point of derailment.

The engineer and the front brakeman were killed. The fireman was injured.

The weather was clear at the time of the accident, which occurred about 12:20 a. m.

The total weight of engine 6909 in working order is 171,000 pounds. The diameter of the driving wheels is 58 inches. The wheelbase is 11 feet 6 inches long. The length of the engine is 34 feet 3-7/8 inches and the total length of the engine and its tender, coupled, is 59 feet 10-1/4 inches. The engine is equipped with ET-6 brake equipment. It is not equipped with a speed recording device.

The tender is rectangular in shape and is 25 feet 6-3/8 inches in length. It has a capacity of 5,100 gallons of water and 7-1/2 tons of coal. The total weight in working order is 105,000 pounds. The wheelbase is 16 feet 11 inches long.

The last class 4 repairs of engine 6909 were completed May 31, 1945, and the accumulated mileage was 85,000. The last trip inspection and repairs were completed at Kalamazoo, Mich., October 26, 1949.

Discussion

As Extra 6909 South was approaching the point where the accident occurred, the engineer, the fireman and the front brakeman were in their respective positions in the cab of the engine. The conductor and the flagman were in the caboose. The brakes on the undamaged cars were tested after the accident occurred and functioned properly. The fireman, the conductor and the flagman said that the train was moving at less than 15 miles per hour at the time of the accident. The fireman said that the engine had been riding rough just prior to the derailment. He said the engineer had initiated two service brake applications as the train moved on the descending grade immediately north of the point of accident before the automatic brake-valve handle was moved to emergency position.

Examination of the engine after the accident occurred disclosed that the throttle was open and the reverse lever was about the center of the quadrant. The independent brake-valve handle was in slow application position. The automatic brake-valve handle was broken but an examination of the brake valve disclosed that it was in the emergency position. The flanges and the treads of all wheels of the engine were of good contour, and the tread wear was negligible. All wheel-centers were tight on their axles. All tires were tight on their wheel centers, and were parallel to their companion tires. The lateral motion in the driving wheels was within the limits prescribed by the carrier. The spring buffer arrangement between the engine and the tender was in good condition and was well lubricated. An examination of the tender trucks and wheels disclosed nothing that would contribute to the cause of the derailment.

An examination of the track after the derailment occurred disclosed no indication of dragging equipment or of an obstruction on the track. Throughout a distance of approximately 450 feet immediately north of the point of accident 65 ties were decayed and 5 ties were split. One or both tieplates were missing from 16 ties. One or more spikes were missing from 18 ties, and one or more spikes were loose in 41 other ties. One or more spikes in 31 ties were not driven tight against the rail. Throughout the 450 feet immediately north of the point of accident there were excessive variations in the surface and alignment of the track. Although this was specified by the carrier as tangent track, the investigation disclosed that five reverse curves existed in this territory, with curvature as high as $0^{\circ}27'$. In addition, the cross-level varied as much as $1\frac{1}{2}$ inches, and on four of the five curves the outside rail was lower than the inside rail. Immediately north of the point of derailment, where the curvature was $0^{\circ}15'$ the outside rail was 1 inch lower than the other rail.

The irregularities in the surface and alignment of the track caused excessive lateral motion of the engine. The engine was not equipped either with an engine truck or a trailer truck and the driving wheelbase was only 11 feet 6 inches long. Because of decayed ties, loose and missing spikes, and other spikes not fully driven, the track was not adequately secured to withstand the excessive lateral thrusts of the engine.

Cause

It is found that this accident was caused by inadequately maintained track.

Dated at Washington, D. C., this thirteenth day of January, 1950.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,

Secretary.