

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3743

CHICAGO, MILWAUKEE, ST. PAUL AND PACIFIC
RAILROAD COMPANY

IN RE ACCIDENT

AT MAUSTON, WIS., ON

APRIL 2, 1957

- 2 -

SUMMARY

Date: April 2, 1957

Railroad: Chicago, Milwaukee, St. Paul and Pacific

Location: Mauston, Wis.

Kind of accident: Derailment

Train involved: Freight

Train number: 263

Locomotive number: Diesel-electric units 81C, 83D, 84D,
69B, and 110A

Consist: 138 cars, cabooses

Speed: 57 m. p. h.

Operation: Timetable, train orders, and automatic
block-signal and cab-signal system

Tracks: Double; 1° curve; 0.48 percent ascending
grade westward

Weather: Cloudy

Time: 7:30 p. m.

Casualties: 3 killed

Cause: Broken journal due to overheating

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3743

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

CHICAGO, MILWAUKEE, ST. PAUL AND PACIFIC RAILROAD COMPANY

May 24, 1957

Accident at Mauston, Wis., on April 2, 1957, caused by a
broken journal due to overheating.

REPORT OF THE COMMISSION¹

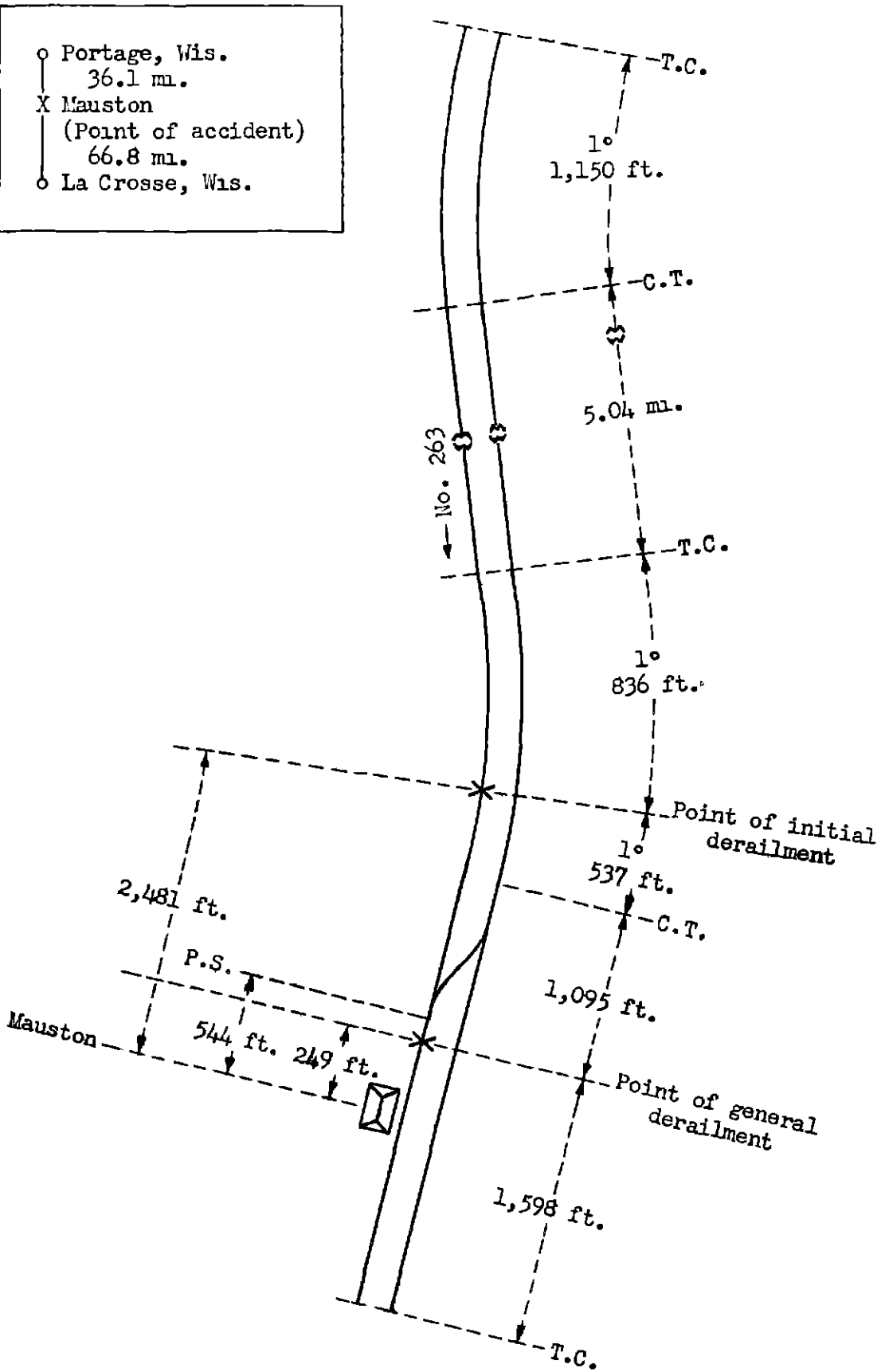
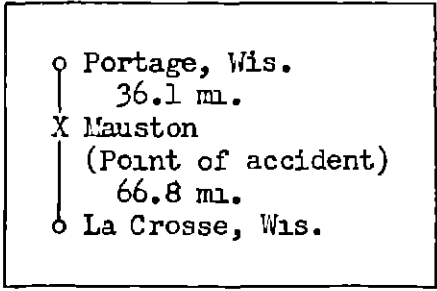
TUGGLE, Commissioner:

On April 2, 1957, there was a derailment of a freight train on the Chicago, Milwaukee, St. Paul and Pacific Railroad at Mauston, Wis., which resulted in the death of three trespassers.

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.

To Portage ↑



↓ To La Crosse

Report No. 3743
Chicago, Milwaukee, St. Paul and Pacific Railroad
Mauston, Wis.
April 2, 1957

Location of Accident and Method of Operation

This accident occurred on that part of the La Crosse and River Division extending between Portage and La Crosse, Wis., 102.9 miles. In the vicinity of the point of the 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 and cab-signal system. At Mauston, 36.1 miles west of Portage, a trailing-point crossover connects the two main tracks. The west crossover-switch is 544 feet east of the station. The initial derailment occurred on the westward main track at a point 2,481 feet east of the station, and the general derailment occurred 249 feet east of the station. From the east there are, in succession, a 1° curve to the left 1,150 feet in length, a tangent 5.04 miles, a 1° curve to the right 836 feet to the point of initial derailment and 537 feet westward, and a tangent 1,095 feet to the point of general derailment and 1,598 feet westward. The grade for west-bound trains is 0.31 percent ascending at the point of initial derailment and 0.34 percent ascending at the point of general derailment.

The track structure of the westward main track consists of 131-pound rail, 39 feet in length, laid new in 1943 on an average of 24 treated hardwood ties to the rail length. It is fully tieplated with double-shoulder tie plates, spiked with four spikes per tie plate, and is provided with 6-hole 36-inch joint bars and an average of 10 rail anchors per rail. It is ballasted with gravel to a depth of 15 inches below the bottoms of the ties.

This carrier's operating rules read in part as follows:

812. * * *

* * *

In departing from stations, and at every opportunity on the road, trainmen must carefully inspect their trains for * * * hot journals * * *

The maximum authorized speed for freight trains in the vicinity of the point of accident is 60 miles per hour.

Description of Accident

No. 263, a west-bound second-class freight train, consisted of Diesel-electric units 81C, 83D, 84D, 69B, and 110A, coupled in multiple-unit control, 1 business car, 137 freight cars, and a caboose. This train departed from Portage, the last open office, at 6:40 p. m., 1 hour late, and while it was moving on the westward main track at a speed of 57 miles per hour, as indicated by the tape of the speed-recording device, the rear truck of the thirty-ninth car was derailed at a point 2,081 feet east of the station at Mauston. The rear truck of the fortieth car, and the forty-first to the seventy-fifth cars, inclusive, were derailed at a point approximately 250 feet east of the station.

The forward portion of the train stopped with the front end 1 mile west of the station. The derailed cars stopped in various positions on or near the tracks, and several of the cars struck the station. The station was demolished, 14 cars were destroyed, 22 were heavily damaged, and 1 was slightly damaged.

The trespassers who were killed were in cars which were derailed.

The weather was cloudy and it was dark at the time of the accident, which occurred about 7:30 p. m.

The thirty-ninth car of No. 263 was I.C. 69750, an all-steel hopper car, built in January 1938. It is 33 feet 1/2 inch long over end sills. The trucks are spaced 24 feet between centers, and the wheelbase of each truck is 5 feet 6 inches. The lightweight, nominal capacity, and load limit are, respectively, 44,400 pounds, 100,000 pounds, and 124,600 pounds. When the accident occurred the car was loaded with carbon coal, and the total weight of the lading was 106,300 pounds. The trucks are of the four-wheel spring plankless type with 5-1/2-inch by 10-inch journals, 33-inch cast iron single plate wheels, and cast steel side frames with integral journal boxes.

Discussion

As No. 263 was approaching the point where the accident occurred the enginemen and the front brakeman were on the locomotive. The conductor and flagman were in the caboose. The members of the crew first became aware that anything was wrong when the brakes became applied in emergency as a result of the derailment.

Examination of the track structure of the westward main track after the accident occurred disclosed that westward from a point 3,783 feet east of the station at Mauston bond wires on the south side of the south rail were broken or scraped intermittently and the east ends of the tops of the joint bars were scored. At a rail-highway grade crossing 2,481 feet east of the station the east end of a plank outside the south rail had been struck and splintered. A plank inside the north rail at this crossing bore marks indicating that wheels had become derailed to the south. The wheels had moved approximately in line with the track to the north rail of the crossover. They had been deflected to the north at the latter point, and the rear truck of the thirty-ninth car had become separated from the car. The general derailment occurred a short distance west of the crossover.

Examination of the equipment of No. 263 after the accident occurred disclosed that the left front journal, at location L-2, of the rear truck of I.C. 69750, the thirty-ninth car, had broken and the truck side-frame had dropped sufficiently to be in contact with the track structure. The stub end of the journal had been in contact with the journal box, and the diameter of the stub end had been greatly reduced. The detached portion of the failed journal was extremely hot when found after the accident occurred. In the journal box of the failed journal the packing was completely burned and the bearing had disintegrated. The other journal boxes of this truck were inspected and found to be in good condition and well lubricated, but with the packing somewhat rolled.

The failure of the journal involved consisted of a break through the journal at a distance varying from $6\text{-}\frac{3}{4}$ inches to $7\text{-}\frac{7}{8}$ inches from the collar. The specified dimensions of the journal were $5\text{-}\frac{1}{2}$ inches by 10 inches. The actual diameter adjacent to the collar was $5\text{-}\frac{7}{16}$ inches, and at the point of failure it was $5\text{-}\frac{27}{64}$ inches, indicating very little taper.

The engineer of tests of the carrier reported that the failure of the journal involved was apparently due to copper penetration and thermal cracking which extended to a depth of $\frac{3}{4}$ inch following excessive overheating of the journal. The chemical composition of the axle was in accordance with specifications of the Association of American Railroads except that the phosphorus content was slightly higher. The Brinell hardness was normal. No stampings were found that would indicate previous overheating.

The wheels at locations L-2 and R-2 on I.C. 69750 were cast on August 2, 1951, but records of the date on which they were applied to the car were not available. The journal boxes were last repacked at Paducah, Ky., on May 11, 1956, at which time all bearings were fitted by a machine to approximate size of journals. This car was billed from Mendota, Ill. The journals were inspected and the packing adjusted on arrival at Milwaukee, Wis., on April 2, 1957. The car was then dispatched in train No. 263 to Portage, 92.9 miles. On arrival of the train at Portage the outbound conductor and a carman inspected the train as it passed them. No exceptions were taken. After No. 263 departed from Portage, members of the crew observed the train as it moved on each curve enroute. None of these employees observed any defective condition of the equipment.

Cause

This accident was caused by a broken journal due to overheating.

Dated at Washington, D. C., this twenty-fourth day of May, 1957.

By the Commission, Commissioner Tuggle.

(SEAL)

HAROLD D. McGOY,

Secretary.