

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT OF THE DIRECTOR
BUREAU OF SAFETY

ACCIDENT ON THE
CHICAGO & NORTH WESTERN RAILWAY

GREAT LAKES, ILL.

NOVEMBER 22, 1939

INVESTIGATION NO. 2394

SUMMARY

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Inv-2394

Railroad: Chicago & North Western
Date: November 22, 1939
Location: Great Lakes, Ill.
Kind of accident: Collision
Equipment involved: Passenger : track motor-car
Train number: 209
Consist: 8 cars
Speed: 60-90 m. p. h. : standing
Operation: Timetable, train orders and
automatic block system
Track: Double; tangent; 0.03 percent
descending grade westward
Weather: Clear
Time: 4:06 p. m.
Casualties: 1 killed and 8 injured
Cause: Track motor-car fouling main
track on time of first-class
train

January 12, 1940.

To the Commission:

On November 22, 1939, there was a collision between a passenger train and a track motor-car on the Chicago & North Western Railway at Great Lakes, Ill., which resulted in the death of one train-service employee and the injury of six passengers and two train-service employees. The investigation of this accident was made in conjunction with a representative of the Illinois Commerce Commission.

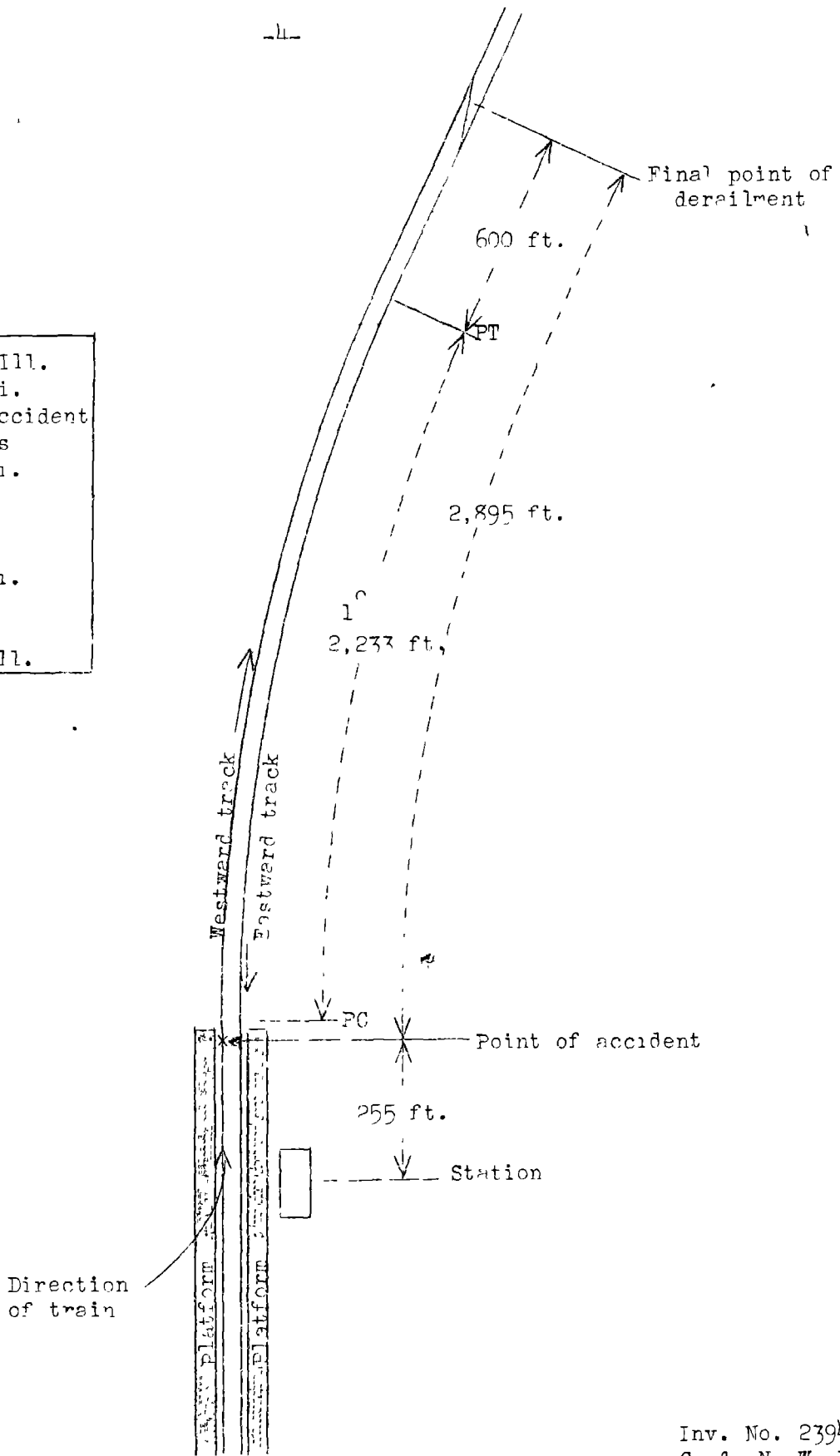
Location and Method of Operation

This accident occurred on that part of the Wisconsin Division designated as Subdivision 1 which extends between Chicago and Waukegan, Ill., a distance of 35.94 miles. In the vicinity of the point of accident this is a double-track line over which trains are operated by timetable, train orders and an automatic block system. Trains moving with the current of traffic are operated to the left. At Great Lakes there are two platforms, one on each side of the double-track line, and there is a station fence between the tracks. The west ends of the platforms, which are approximately 255 feet west of the center-line of the station, are connected by a planked crossing. The planks are 8 feet in length except the outer planks between the outside rails and the platforms which are 12 to 15 feet in length. The collision occurred on the westward main track at the crossing; the initial point of derailment was 12 feet west of the crossing and the final derailment was 2,395 feet beyond, at the point of frog of a trailing-point crossing over connecting the two main tracks. Approaching from the east there are, successively, a tangent 9,600 feet in length extending to the point of accident, a 1° curve to the right 2,233 feet in length, and a tangent approximately 600 feet in length to the final point of derailment. The grade for west-bound trains is slightly descending; it is 0.03 percent at the crossing and level at the final point of derailment.

Rules 126, 127, 703, 713, and 739 of the Rules governing Maintenance of Way and Structures, read as follows:

126. When flag protection is necessary flagmen must be sent in both directions with flagman's signals a sufficient distance to insure full protection, placing two torpedoes, and when necessary, in addition displaying lighted fuses. Flagmen will locate themselves so as to be plainly seen and give signals in such a manner as to be readily understood. Flagmen will remain until recalled.

o	Waukegan, Ill.
	3.73 mi.
X	Point of accident
o	Great Lakes
	1.97 mi.
o	Leke Bluff
	30.24 mi.
o	Chicago, Ill.



Inv. No. 2394
 C. & N. W. Ry.
 Great Lakes, Ill.
 Nov. 22, 1939

127. Flagman's signals:

Day signals---A red flag,
Torpedoes and
Fusees.

Night signals---A red light
A white light,
Torpedoes and
Fusees.

When day signals cannot be plainly seen,
night signals must be used in addition.

703. No one except a responsible employee who
has been properly qualified will be allowed to operate
track cars upon the main track.

713. Employees operating track cars on main
tracks shall, when practicable, obtain information re-
garding trains, but such information will not relieve
them of the responsibility of protecting the cars.
They must see that the cars are clear of the track for
trains.

739. Cars must be removed from the track or
protected by flag when not in use. When they cannot
be removed from the track to clear an approaching
train, they must be protected as prescribed by flagg-
ing rules.

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

The weather was clear at the time of the accident,
which occurred about 4:06 p. m.

Description

No. 209, a west-bound passenger train, known as the
"Winnebago," consisted of one baggage car, one combination coach
and baggage car, two coaches, one parlor car, two coaches, and
one parlor car, in the order named, of steel construction,
hauled by engine 2906, of 4-6-2 type, and was in charge of Con-
ductor Leesch and Engineman Anderson. This train left Chicago,
32.21 miles east of Great Lakes, at 3:30 p. m., according to
the train sheet, on time, passed Lake Bluff, 1.97 miles east
of Great Lakes, at 4:03 p. m., 1 minute late, and, when passing
through Great Lakes and moving at a speed variously estimated
from 60 to 90 miles per hour, struck a track motor-car at the
crossing at the west end of the station platform.

The motor-car involved was a Sheffield No. 44 model, having a steel frame, an overall length of 7 feet, and weighing 1,035 pounds. The crew consisted of Assistant Foreman Blum, of the Bridge and Building Department, and three carpenters. Completing their work, which consisted of repairing the inter-track fence at Great Lakes, they placed the motor-car on the westward main track to go to Waukegan, 3.73 miles west of Great Lakes. To start the motor, they had pushed the car a distance of about 120 feet when they saw an approaching train at Lake Bluff; then they pushed the car back to the crossing and attempted to remove it from the track, but a wheel at the east end dropped off the planking. The car stood at an angle to the track with one pair of wheels outside the south rail and the other pair inside the rails when it was struck by No. 209.

The motor-car was demolished and thrown to the south of the track. The engine stopped down a 6-foot embankment on its left side and parallel to the track with its front end 377 feet beyond the point of frog of the crossover, or 3,272 feet west of the point of collision. The cistern, which was thrown from the tender frame, stopped inverted and at right angles to the engine. Both the engine and the tender were badly damaged. The first car, torn from its trucks, stopped on the end of the cistern at an angle of about 45 degrees. The second to the fifth cars, inclusive, and the front truck of the sixth car were derailed, but these cars remained in upright position to the left of the track.

The employee killed was the engineman and those injured were the fireman and the baggageman.

Summary of Evidence

Assistant Foreman Blum, of the Bridge and Building Department, stated that before leaving Waukegan on the morning of the accident Foreman Aspatore orally gave him a line-up of trains. He arrived at Great Lakes at 8:30 a. m., and the motor-car was set off at the north side of the eastward track while he and his three men repaired the intertrack fence. He did not secure a line-up of trains at Great Lakes as there is no telephone at that point. The work being completed about 3:30 p. m., he looked at his watch and remarked that "The 400" was late. He thought that No. 365, the train that closely follows No. 401, "The 400," also would be late, and after consulting his timetable he estimated that he would have approximately 50 minutes to go to Waukegan. At this time he did not realize that he had overlooked No. 209, which is listed in the timetable column to the right of No. 367 and is scheduled to arrive at Waukegan at 4:07 p. m. After No. 401 passed, the motor-car was moved to the south platform. After No. 365 passed, the motor-car was placed on the westward track and, in order to start the motor they pushed the car westward a distance of 120 feet until one of the

men saw a train coming around the curve at Lake Bluff, and the assistant foreman realized immediately that it was No. 209. The car was then pushed back to the crossing, as sufficient time remained to remove it from the track. Assistant Foreman Blum and Carpenter Rege stood on the head or west end of the car to balance it as the other two men lifted the other end, swung it around, and set it down at about a 45-degree angle to the track. Then as they started to push it off the track, a wheel dropped off the planking; one pair of wheels was outside the south rail of the westward track, the other pair was between the rails, and the men were unable to move the car. At that time the train was approximately 1,000 feet distant. Giving stop signals with his arms, Assistant Foreman Blum ran toward the train, on the fireman's side, but received no answer to his signals. The weather was clear, the sun was setting, and the headlight on No. 209 was burning. He heard no whistle at any time and he did not think the brakes were applied as the train passed him. The engine was working steam and he estimated the speed of the train as about 75 miles per hour at the time of the collision. He stated that although the motor did not work properly at that time, usually it started easily. He said that when the time is limited it is practically impossible to remove the motor-car from the track except at crossings. He did not think that he is required to carry a standard watch, although he has a watch that keeps accurate time. He was unable to state the authorized speed of motor-cars. He has worked as assistant foreman in the territory involved for more than 2 years.

Carpenter Rege stated that when the motor-car was first pushed he was on the front end on the right side and the assistant foreman was also on the car; the other two men were pushing it. He saw No. 209 approaching, so they pushed the car back to the crossing. While moving toward the crossing he asked the assistant foreman to hand him a fusee, which he could not reach himself; the request was disregarded and they continued to the crossing. The east end of the car was lifted southward off the track, and as they started to push the car toward the platform the left front wheel dropped off the planking; the train was then too close to take further action. He heard no whistle signal and he could not say whether the air brakes on the train had been applied.

Carpenter Morford stated that after the collision he heard a whistle sounded but was not sure that the sound was from the train that struck the motor-car.

Carpenter Marsh stated that the train was from 150 to 175 yards distant when he and the assistant foreman gave stop signals. He estimated that the speed of the train was at least

60 miles per hour at the time of accident; he heard no whistle sounded at any time and he was unable to say whether the brakes were applied.

Conductor Leesch, of No. 209, stated that the air brakes were tested at Chicago, and a running test was made after leaving that point. He was in the sixth car behind the engine and the train was moving at a speed of between 70 and 75 miles per hour when he heard an unusual whistle signal, which sounded like an alarm signal; this signal was followed immediately by a heavy application of the air brakes. The speed was reduced rapidly and the train stopped about 40 seconds later. He estimated that the accident occurred about 4:06 p.m.

Front Brakeman Bortley, of No. 209, stated that he made an air-brake test before leaving Chicago and the brakes functioned properly. As the train was passing through Great Lakes, he was leaving the rear end of the second car when he saw an object fly by a window on the left side, he entered the vestibule and pulled the air signal twice, and as he did so he felt an application of the air brakes. At that time the train was moving at a speed of 80 or 85 miles per hour; the speed was reduced gradually and no severe shock occurred when the train stopped.

Flagman Service, of No. 209, stated that the train was moving at a speed of between 80 and 90 miles per hour. He was in the rear car of the train, and about the time that car was passing over the crossing at the west end of Great Lakes station platform he felt a service application of the air brakes, and as the train stopped there was a severe shock at the rear end.

Foreman Aspatore, of the Bridge and Building Department, stated that he had instructed Assistant Foreman Blum to take his crew and repair the intertrack fence at Great Lakes, and, having previously received a line-up of trains, informed him that there were no extra trains. The motor-car was inspected and it was working properly when it left Waukegan that morning. The car had been overhauled by the division motor-car repairman about one month prior to the date of accident. Foreman Aspatore stated that he had been examined by a train-rules examiner for the position of foreman in April, 1937. He had not examined Assistant Foreman Blum on the rules to determine his qualifications for operating a motor-car on main track, but he considered him qualified to operate a motor-car on main tracks, because of the manner in which he did his work, the manner in which he operated a motor-car, and his knowledge of the timetable.

Supervisor of Bridges and Buildings Manning stated that from time to time copies of circulars issued by the engineer of maintenance relative to the safe operation of track motor-cars are furnished to all foremen. On Monday mornings each crew is required to hold a "safety meeting," at which meeting accidents and their causes are discussed and preventive suggestions offered. He attends these meetings whenever possible and discusses such matters with the men.

On the page of the current timetable which carries the schedule of the train involved and other west-bound trains, the schedules in consecutive order from left to right showing the leaving time at Lake Bluff and the arriving time at Waukegan are as follows:

No.	Due to leave Lake Bluff	Due to arrive Waukegan
349	1:17p. m.	1:28 p. m.
361	2:49p. m.	3:01 p. m.
401	3:28 p. m.	3:32 p. m.
365	3:48 p. m.	3:57 p. m.
367	4:43 p. m.	4:55 p. m.
209	4:02 p. m.	4:07 p. m.
371	5:18 p. m.	5:29 p. m.
107	5:00 p. m.	5:11 p. m.
377	5:37 p. m.	5:46 p. m.
375	5:42 p. m.	5:52 p. m.
381	5:53 p. m.	6:05 p. m.

Observations of Commission's Inspectors

The Commission's inspectors examined the track and found on a tie 2 feet east of the crossing and 18 inches inside the south rail a deep indentation indicating the approximate point of collision. Three planks inside the south rail and the third plank from the outside of this rail were torn out. The first marks of derailment were light flange marks outside the south rail and corresponding marks inside the north rail; these marks, apparently made by one pair of engine-truck wheels, began at a point 12 feet west of the crossing and continued to the frog of the cross-over, 2,895 feet beyond, where the final derailment occurred. The track was torn up from the cross-over frog westward a distance of about 375 feet.

Discussion

The evidence indicates that on the morning of the accident the foreman advised the assistant foreman before he left Waukegan to go to Great Lakes there were no extra trains. At

the time their work at Great Lakes was completed, about 3:30 p. m., the assistant foreman had received no further information relative to a line-up, and there was no telephone available at Great Lakes. The assistant foreman consulted his timetable, realized that No. 401 was late and thought that No. 365 also would be late; these trains are scheduled to leave Lake Bluff, 1.97 miles east of Great Lakes, at 3:28 p. m. and 3:42 p. m., respectively and to arrive at Waukegan, 3.73 miles west of Great Lakes, at 3:32 p. m. and 3:57 p. m., respectively. He estimated that after passage of these trains he would have 50 minutes in which to reach Waukegan, as the next schedule listed in the timetable to the right of No. 365's schedule was, that of No. 367, which was due to leave Lake Bluff at 4:43 p. m. and to arrive at Waukegan at 4:55 p. m. He overlooked the schedule of No. 209, which is listed in the column to the right of No. 367, and the leaving time of which at Lake Bluff and the arriving time at Waukegan are, respectively, 4:02 p. m. and 4:07 p. m. The motor-car was placed on the track and, in order to start the motor, was pushed a distance of about 120 feet until the approaching train was seen at Lake Bluff. The men immediately pushed the car back to the crossing, lifted one end southward from the track, and then were attempting to push the car off the track when a wheel dropped off the planking of the crossing and became lodged between the rail and the platform; they were unable to remove the car before the train arrived.

The engineman was killed in the accident, and the fireman was so seriously injured that a statement could not be obtained from him at the time of this investigation, but, as other members of the crew stated that no application of the air brakes was made prior to the accident, it would appear that the motor-car was not seen by either member of the engine crew. If a lighted fusee had been displayed by the motor-car crew, probably it would have been seen in time for the engineman to take some action to stop the train before striking the motor-car.

According to the statement of Carpenter Rege, he could not reach the fusees on the motor car and the assistant foreman failed to hand him a fusee when requested.

Marks on the track indicated that a pair of engine-truck wheels was derailed just west of the crossing by some part of the wreckage; these marks continued to the frog of a trailing-point cross-over, 2,895 feet beyond, where the final derailment occurred.

The investigation disclosed that the foreman had been examined for his position by the rules examiner in April, 1937, and the foreman passed on the qualifications of the assistant

foreman from observation of his work, but the foreman had not examined the assistant foreman on the rules relative to the operation of motor-cars on main track. A rule of this rail-
road provides that no one except a responsible employee who has been properly qualified is permitted to operate track cars on main tracks. Although the assistant foreman had not been examined on the rules pertaining to motor-car operation, the evidence indicated that his failure to keep the motor-car clear of the main track was due to an oversight and not to a lack of knowledge of motor-car operation.

Conclusion

This accident was caused by a track motor-car fouling the main track on the time of a first-class train.

Respectfully submitted,

S. N. MILLS

Director.