

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 3266
THE BALTIMORE AND OHIO RAILROAD COMPANY
REPORT IN RE ACCIDENT
NEAR SHOALS, IND., ON
JULY 21, 1949

SUMMARY

Date: July 21, 1949

Railroad: Baltimore and Ohio

Location: Shoals, Ind.

Kind of accident: Head-end collision

Equipment involved: Track motor-car : Freight train

Train number: : Extra 113 West

Engine number: : Diesel-electric
units 113 and
113A

Consists: Track motor-car : 54 cars, caboose
851

Speeds: 15 m. p. h. : 37 m. p. h.

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

Track: Single; 4° curve; 0.03 percent
descending grade westward

Weather: Clear

Time: 3:30 p. m.

Casualties: 5 injured

Cause: Error in furnishing information to
section foreman concerning train
movements

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3266

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

THE BALTIMORE AND OHIO RAILROAD COMPANY

September 12, 1949

Accident near Shoals, Ind., on July 21, 1949, caused by
error in furnishing information to section foreman
concerning train movements.

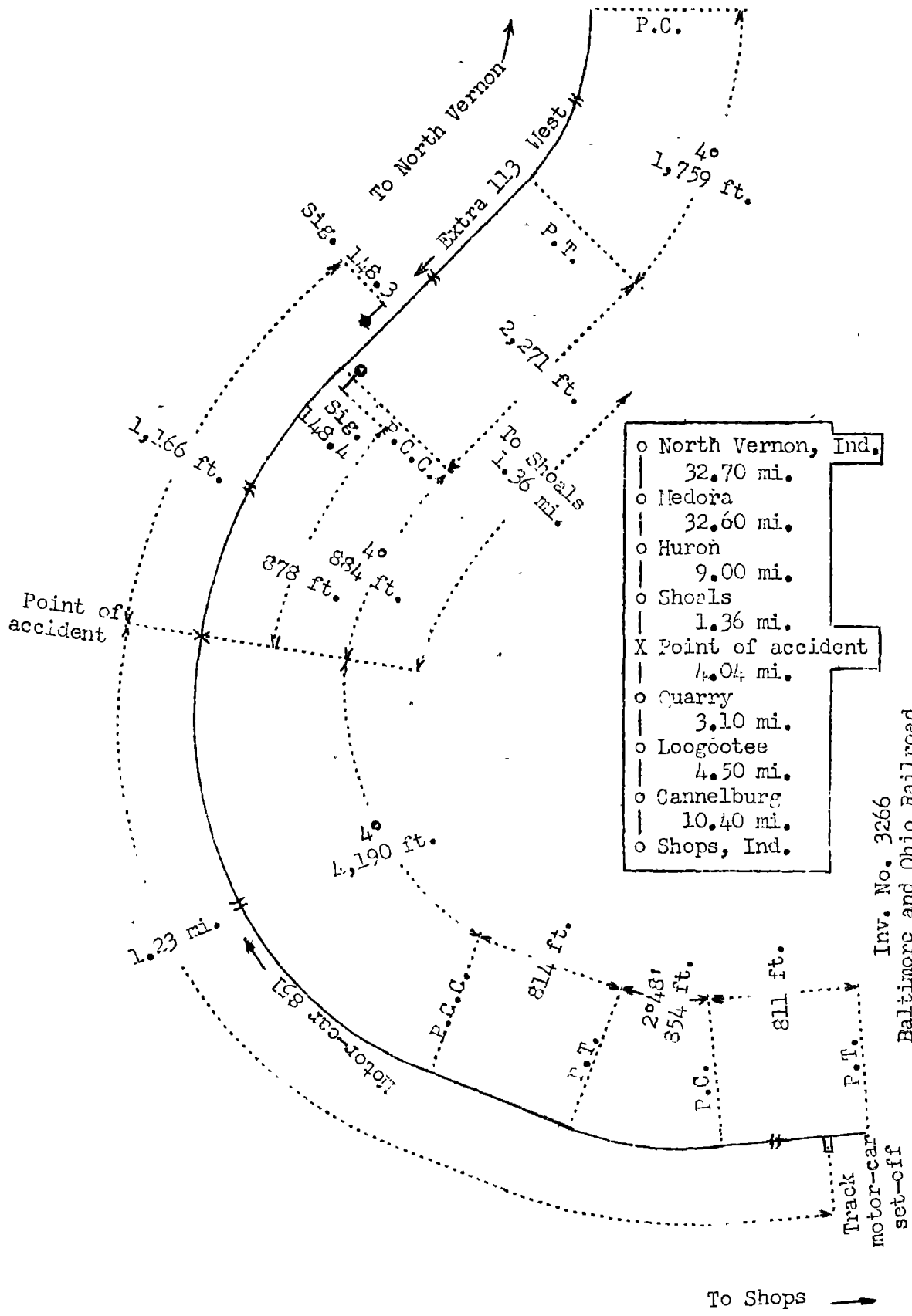
REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On July 21, 1949, there was a head-end collision
between a track motor-car and a freight train on the
Baltimore and Ohio Railroad near Shoals, Ind., which
resulted in the injury of five maintenance-of-way
employees.

¹

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. No. 3266
Baltimore and Ohio Railroad
Shoals, Ind.
July 21, 1949

Location of Accident and Method of Operation

This accident occurred on that part of the St. Louis Division extending between North Vernon and Shops, Ind., 97.7 miles, a single-track line, over which trains are operated by timetable, train orders and an automatic block-signal system. The accident occurred on the main track 75.66 miles west of North Vernon and 1.36 miles west of the station at Shoals. From the east there are, in succession, a 4° curve to the right 1,759 feet in length, a tangent 2,271 feet, and a compound curve to the left, having a maximum curvature of 4°, 834 feet to the point of accident and 4,190 feet westward. From the west there are, in succession, a tangent 811 feet, a 2°48' curve to the right 854 feet, a tangent 814 feet and then the curve on which the accident occurred. At the point of accident the grade is 0.03 percent descending westward. In this vicinity the track is laid on an embankment, the maximum height of which is 19 feet.

Automatic signal 148.3, governing west-bound movements, and automatic signal 148.4, governing east-bound movements, are located, respectively, 1,166 feet and 878 feet east of the point of accident. The controlling circuits are arranged on the absolute-permissive-block principle. These signals are of the color-position-light type and are approach lighted.

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

14. Engine Whistle Signals.

Note.--The signals prescribed are illustrated by "o" for short sounds; "—" for longer sounds. * * *

SOUND.

INDICATION.

* * *

(1) — — o —

Approaching public crossings at grade. To be prolonged or repeated until crossing is reached.

* * *

(p) Succession of short sounds. Alarm for persons or live stock on the track.

* * *

Instructions governing the Maintenance of Way Department read in part as follows:

RULES FOR THE OPERATION OF TRACK CARS.

95. Track Car Operators must secure Form 1089-D from Telegraph Operator for the movement of all track cars on all tracks controlled by the Train Dispatcher. The Train Dispatcher must be informed of the track car number, direction, points between which the track car is to move, and the length of time required to make the movement. When information cannot be obtained as to train movements, track car will not be operated without proper flag protection.

Train Dispatcher will give Telegraph Operator complete line-up of movement of all trains as provided in Part I of Form 1089-D, number of line-up, track to which line-up applies and time it expires, and will record this information in book provided for that purpose. The Telegraph Operator will write the information as it is transmitted and repeat it to the Train Dispatcher. The Telegraph Operator will then fill in Part II showing information as to the movement of track cars known to be operating between his office and the next open telegraph office at the time line-up is issued. When the Track Car Operator receives Form 1089-D by telephone, he must repeat the information to the Telegraph Operator. The Track Car Operator must read aloud to all persons on the track car the information received on Form 1089-D.

100. Track cars will be clear of the main tracks five (5) minutes before regular trains are due and track car operators must use good judgment in clearing other trains on the line-up. Track car must be clear of the main track before the time limit on line-up expires. When communication is available, Track Car Operator * * * will notify the Telegraph Operator before again occupying the main track,

This carrier's Form 1089-D reads as follows:

THE BALTIMORE AND OHIO RAILROAD COMPANY

TRACK CAR LINE UP No....., 19.....

For track Car No..... FromTo

.....
* * * * * * * *

On.....track This line-up expires.....M

PART I

TRAIN	ENGINE No.	DIRECTION	PASSED	TIME
-------	------------	-----------	--------	------

Train Dispatcher.....M Operator.....Station.....
Signature

PART II

TRACK CAR No.	DIRECTION	FROM	TO	TIME
---------------	-----------	------	----	------

Delivered or telephoned by.....Operator.....M.

Received by.....Track Car No.....At Station
Signature

* * * * * * * *

The maximum authorized speeds were 40 miles per hour for the freight train and 20 miles per hour for the track motor-car.

Description of Accident

About 3:25 p. m. track motor-car 851, occupied by a section foreman and five employees, departed eastward from a point 2.59 miles west of Shoals, and while moving at an estimated speed of 15 miles per hour it was struck by Extra 113 West at a point 1.36 miles west of Shoals.

Extra 113 West, consisting of Diesel-electric units 113 and 113A, coupled in multiple-unit control, 54 cars and a caboose, departed from North Vernon at 12:55 p. m., passed Shoals, the last open office, at 3:28 p. m., and while it was moving at a speed of 37 miles per hour it struck track motor-car 851.

The track motor-car was demolished. The rear wheels remained on the track, and the wreckage was moved westward a distance of 1,287 feet, at which point the train stopped.

The employees injured were a section foreman and four sectionmen.

The weather was clear at the time of the accident, which occurred about 3:30 p. m.

Track motor-car 851 was of the 4-wheel type, was equipped with 4-wheel brakes and was insulated to prevent the shunting of track circuits. It weighed 1,215 pounds, was powered by a gasoline engine, and had seating capacity for eight persons. The motor-car was provided with safety rails at the front and rear ends of the car. They extended 13-1/2 inches above the seat, and were connected by a bracing rod extending from the front to the rear.

During the 30-day period preceding the day of the accident, the average daily movement in the vicinity of the point of accident was 21.8 trains.

Discussion

The rules governing operation of track motor-cars on this line require a track motor-car operator to obtain a line-up of train movements from a telegraph operator for the movement of a track motor-car on any track controlled by the train dispatcher. The train dispatcher must be informed of the track motor-car number, the direction of its anticipated movement, the points between which it is to move, and the length of time required to make the movement.

The train dispatcher must give the telegraph operator a complete line-up of train movements, the number of the line-up, the track to which it applies, and the time it expires. This information must be recorded by the dispatcher in a book provided for that purpose. The telegraph operator is required to write the information on a form provided for that purpose as it is transmitted and to repeat it to the train dispatcher. Before delivering a line-up to a track motor-car operator, the telegraph operator must include in the line-up information concerning the movement of track motor-cars known to be operating between his station and the next open station at the time the line-up is issued. When a track motor-car operator receives a line-up by telephone he must repeat it to the telegraph operator. He must read it aloud to all persons on the track motor-car. When communication is available, a track motor-car operator must notify the telegraph operator before the motor-car occupies the main track.

About 7 a. m. the section foreman at Shoals obtained a line-up of train movements from the telegraph operator. Soon afterward the section foreman and five sectionmen proceeded westward on track motor-car 851, and stopped about 8 a. m. at a point 2.59 miles west of Shoals, where the track motor-car was removed from the track. At 12:23 p. m. the dispatcher issued line-up No. 205 for track motor-car 1590 to be operated between Loogootee and Shoals, and for track motor-car 851 to be operated between Quarry and Shoals. Track motor-car 1590 was operated by a signal maintainer. Loogootee and Quarry are, respectively, 8.5 miles and 5.4 miles east of Shoals. This line-up contained the information that No. 83, Extra 113 West, and No. 99, would leave North Vernon, respectively, at noon, 12:50 p. m., and 2:10 p. m., and that the line-up expired at 4:40 p. m. North Vernon is 74.3 miles east of Shoals. These three trains were west-bound freight trains. After the operator repeated the line-up to the dispatcher, he delivered two copies to the signal maintainer who was operating track motor-car 1590. Track motor-car 1590 departed from Loogootee at 12:30 p. m., and about 1 p. m. the signal maintainer delivered one copy of line-up No. 205 to the section foreman west of Shoals.

About 3:20 p. m. the section foreman called Loogootee by telephone, identified himself and requested information concerning west-bound trains only. He used a portable telephone on a local communication circuit. He said he read to a student operator the information concerning

west-bound trains contained in line-up No. 205. After a short delay the student operator, who was assisting the regularly assigned operator at Loogootee, informed the section foreman that Extra 113 West was by Medora, 41.6 miles east of Shoals. The section foreman asked the time that Extra 113 West passed Medora and also if there were any west-bound trains ahead of Extra 113 West. The student operator replied that Extra 113 West was just by Medora and that there was no west-bound train ahead of it. The section foreman did not repeat the information to the operator. However, he copied it on the reverse side of line-up No. 205 and read it aloud to the other employees. Track motor-car 851 then was placed on the main track, and it departed eastward. It was moving at a speed of about 15 miles per hour when one of the employees observed Extra 113 West about 600 feet distant. The section foreman immediately applied the brakes, and all employees jumped from the car before the collision occurred.

As Extra 113 West was approaching the point where the accident occurred, the speed was 37 miles per hour. The enginemen and the front brakeman were maintaining a lookout ahead from their respective positions in the control compartment of the first Diesel-electric unit. The grade-crossing whistle-signal was sounded for street crossings at Shoals and for a road crossing 4,995 feet east of the point where the accident occurred. There had been no train order issued restricting the movement of Extra 113 West with respect to track motor-cars, and the members of the crew of that train had not been informed of the movement of any track motor-car. In the vicinity of the point of accident the view of the track ahead was restricted to about 625 feet, because of track curvature and vegetation. Signal 148.3, governing movements into the block in which the accident occurred, indicated Clear. The enginemen and the front brakeman saw the track motor-car at approximately the same time, when it was about 600 feet distant. The engineer immediately sounded a warning on the pneumatic horn and placed the brake valve in emergency position, but the collision occurred before the speed of the train had been materially reduced. The brakes of this train had been tested and had functioned properly when used en route.

The student operator at Loogootee said that when the section foreman called about 3:20 p. m., he answered the call because the regularly assigned operator was engaged in other duties. He said the section foreman identified himself, gave the location and number of his track motor-car, and told him

the point to which the track motor-car was to be moved. He asked for information concerning west-bound trains only and said that east-bound trains would not affect the movements of the track motor-car. The student operator had not read line-up No. 205, and said that the section foreman did not read it to him. He knew that the signal maintainer had obtained a copy of the line-up to be delivered to the section foreman. He disconnected the telephone from the local circuit and, on another circuit, requested information from the dispatcher concerning west-bound trains. He did not inform the dispatcher for what purpose the information would be used. He said he understood the dispatcher to say that Extra 113 West was at Medora and he gave this information to the section foreman, and told him that there was no west-bound train ahead of Extra 113 West. However, the dispatcher said that he told the student operator that Extra 113 West had passed Huron at 3:17 p. m., that No. 83 was at Medora, and that No. 99 had not left North Vernon. Huron is 9 miles east of Shoals. Both the dispatcher and the student operator said that they could hear the other clearly and distinctly. The student operator said he believed that he inadvertently depressed the foot-pedal after the dispatcher said Extra 113 West and that he released it immediately before the dispatcher said Medora, because there was a pause in the transmission at that time. The telephone system is so arranged that a person must keep the foot-pedal depressed while he is talking, but must release it in order to hear distinctly another person talking on the circuit. The student operator said he did not know that he was required to repeat to the dispatcher the information contained in a line-up for track motor-car movements.

In this territory the train dispatcher issues a line-up approximately at 6:30 a. m. and at 12:30 p. m. to telegraph operators where track motor-cars are stationed, and at other times when requested. These line-ups are issued as information only and they do not confer authority over trains or over other track motor-cars. The members of train crews have no information concerning the movements of track motor-cars, and trains are operated without regard to their movements. Track motor-car operators are required to be clear of the main track 5 minutes before a regular train is due and also before a line-up expires, but they may use their judgment in clearing other trains shown on the line-up. In the instant case, the main track was occupied by the track motor-car when no scheduled train was overdue and 1 hour 15 minutes before the line-up, issued 3 hours previously, would expire. The

information which the student operator gave to the section foreman was erroneous because he failed to include all the information given by the dispatcher. The error was not detected because the information was not repeated to the dispatcher. None of the members of the crew of Extra 113 West were informed that track motor-car 851 was occupying the main track, and all of the occupants of track motor-car 851 were informed that Extra 113 West was about 40 miles east of Shoals.

During the past six years the Commission has investigated twenty-four collisions, including the instant case, in which track motor-cars were involved. These accidents resulted in the death of 47 persons and in the injury of 86 persons and were caused by failure to provide adequate protection for the movement of track motor-cars.

Cause

It is found that this accident was caused by error in furnishing information to section foreman concerning train movements.

Dated at Washington, D. C., this twelfth day of September, 1949.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.