

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 3159
GRAND TRUNK WESTERN RAILROAD COMPANY
REPORT IN RE ACCIDENT
NEAR BATTLE CREEK, MICH., ON
JANUARY 18, 1948

SUMMARY

Railroad: Grand Trunk Western

Date: January 18, 1948

Location: Battle Creek, Mich.

Kind of accident: Derailment and collision

Trains involved: Freight : Freight

Train numbers: Extra 6336 East : Extra 6331 West

Engine numbers: 6336 : 6331

Consists: 63 cars, cabooses : 51 cars, cabooses

Estimated speeds: 40 m. p. h. : 25 m. p. h.

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

Tracks: Double; tangent; 0.27 percent
descending grade eastward

Weather: Clear

Time: 11:12 a. m.

Casualties: 3 killed; 1 injured

Cause: Broken journal, and derailed freight
cars obstructing adjacent main track
in front of approaching freight train

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3159

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

GRAND TRUNK WESTERN RAILROAD COMPANY

March 22, 1948

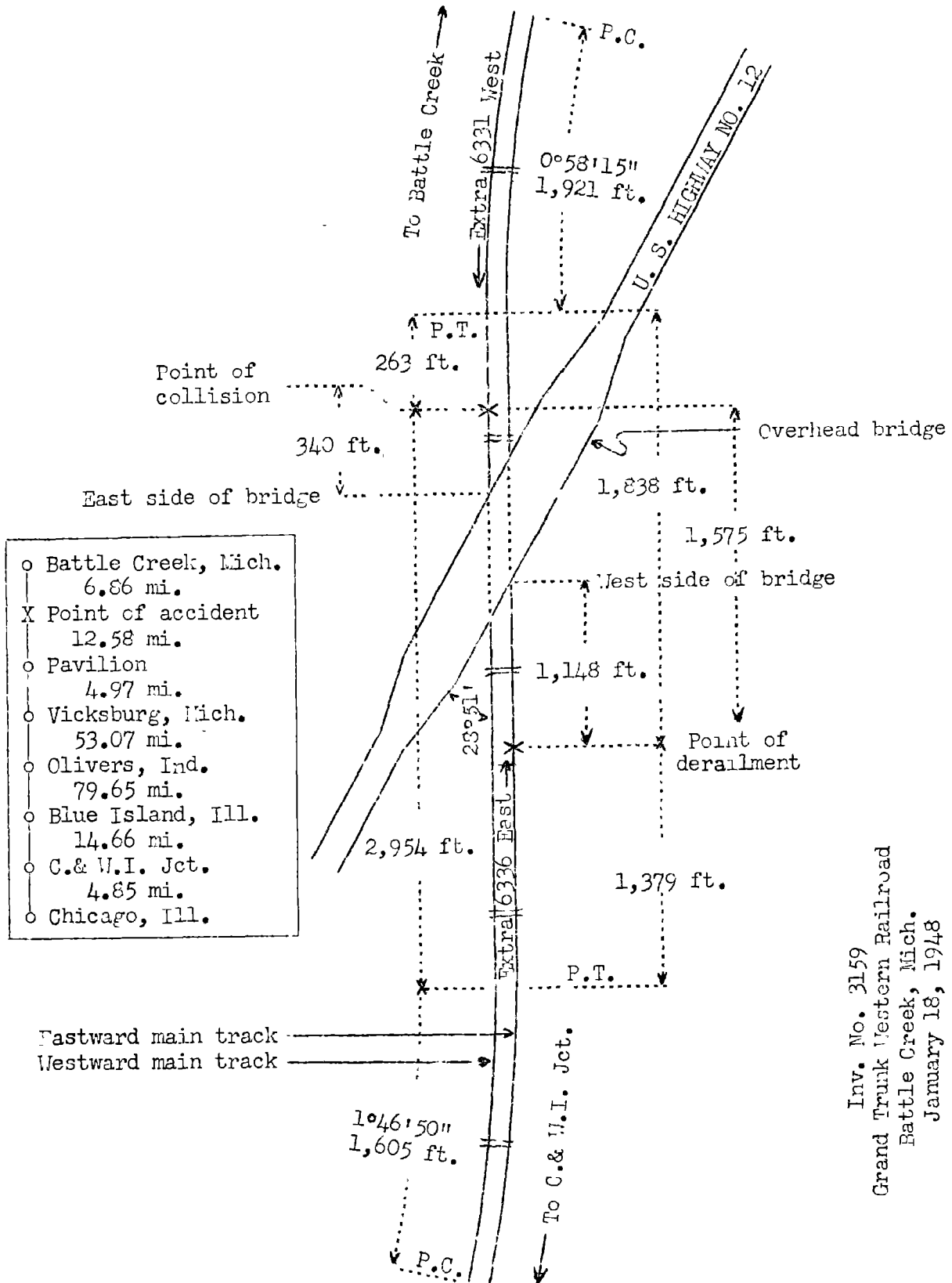
Accident near Battle Creek, Mich., on January 18, 1948,
caused by a broken journal, and by derailed freight
cars obstructing an adjacent main track in front
of an approaching freight train.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On January 18, 1948, cars of a freight train were derailed and were struck by another freight train on the Grand Trunk Western Railroad near Battle Creek, Mich. This accident resulted in the death of three employees and the injury of one employee. It was investigated in conjunction with a representative of the Michigan Public Service

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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.



Inv. No. 3159
 Grand Trunk Western Railroad
 Battle Creek, Mich.
 January 18, 1948

Location of Accident and Method of Operation

This accident occurred on that part of the Chicago Division extending between C. & W. I. Jct., Chicago, Ill., and Battle Creek, Mich., 171.79 miles, a double-track line in the vicinity of the point of accident, over which trains are operated by timetable, train orders and an automatic block-signal system. The derailment occurred on the eastward main track 164.93 miles east of C. & W. I. Jct. and 6.86 miles west of the station at Battle Creek, and the collision occurred 1,575 feet eastward. From the west there are, in succession, a $1^{\circ}46'50''$ curve to the left 1,605 feet in length and a tangent 1,379 feet to the point of derailment and 1,638 feet eastward. From the east there are, in succession, a $0^{\circ}58'15''$ curve to the left 1,921 feet in length and a tangent 263 feet to the point of collision and 2,954 feet westward. The grade is 0.27 percent descending eastward.

The track structure consists of 100-pound rail, 39 feet in length, laid on an average of 24 ties to the rail length. It is fully tieplated, double-spiked, provided with 4-bolt joint bars and an average of 8 rail anchors per rail length. It is ballasted with gravel to a depth of about 8 inches. In this vicinity a highway bridge of steel construction spans the railroad at an angle of $28^{\circ}51''$. The west side of the bridge structure is 1,148 feet east of the point of derailment, and the east side of the bridge structure is 340 feet west of the point of collision.

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

90b. Trainmen, so far as practicable, are required to look for and exchange signals with trainmen on passing trains, operators, signalmen, * * * and other employees as they pass, taking immediate action to stop their train in the event of "stop" signal being given on account of defects or other dangerous conditions which may be observed by them.

153. * * *

When a train stops unexpectedly or meets with an accident the nature or extent of which is unknown, trainmen must, without waiting to determine what tracks, if any, are obstructed, stop trains on all tracks until it is known that such trains can move with safety.

Time-table instructions read in part as follows:

All employees must observe trains closely and if anything unusual or defective is noted, such as * * *, hot box, * * * make every effort to call

attention of train and enginemen to such conditions by giving STOP signal, and when practicable, report promptly to the train dispatcher.

A trainman must be stationed on rear end of train in position to give or receive necessary signals as follows:

* * *

When passing trains on two or more tracks;

When meeting or passing trains on sidings;

When passing train order signals and interlockers.

* * *

Operators and signalmen must, when practicable, be out in front of the office when trains are passing,

* * *

The maximum authorized speed for freight trains is 45 miles per hour.

Description of Accident

Extra 6336 East, an east-bound freight train, consisting of engine 6336, 63 cars and a caboose; passed Vicksburg, the last open office, 17.7 miles west of the point of derailment, at 10:42 a. m. and was moving on the eastward main track at an estimated speed of 40 miles per hour when the twenty-fifth to forty-seventh cars, inclusive, were derailed, and they obstructed the westward main track. Less than one minute later the derailed equipment was struck by Extra 6331 West.

Extra 6331 West, a west-bound freight train, consisting of engine 6331, 51 cars and a caboose, departed from Battle Creek, the last open office, at 10:55 a. m., and while moving on the westward main track at an estimated speed of 25 miles per hour it struck the derailed cars of Extra 6336 East. The engine and the first 13 cars were derailed.

The derailed equipment of both trains was badly damaged. The second car, the fourth to seventh cars, inclusive, and the tenth car of Extra 6331 West were tank cars containing oil. The tanks of several of these cars were punctured, and the engine of Extra 6331 West and a number of cars were destroyed by fire.

The engineer, the fireman and the front brakeman of Extra 6331 West were killed, and the conductor of this train was injured.

The weather was clear at the time of the accident, which occurred about 11:12 a. m.

The twenty-fifth car of Extra 6336 East was I. C. 29944, an all-steel box car, built in August, 1947. It was 41 feet 8-1/2 inches long over end-sills, 10 feet 7-1/2 inches wide and 14 feet 11 inches high. Its stencilled lightweight and load limit were, respectively, 47,200 pounds and 121,800 pounds, or a maximum allowable weight of 169,000 pounds on the rails. At the time of the accident the lading consisted of sand, and the total weight of the car and the lading was 165,000 pounds. The trucks were of the 4-wheel type, having 5-1/2-inch by 10-inch journals, cast-iron wheels, and cast-steel U-section side frames. The wheels and the axle involved were applied to the car on the Wabash Railroad at Peru, Ind., on August 26, 1947.

Discussion

Extra 6336 East was moving on the eastward main track at an estimated speed of 40 miles per hour, in territory where the maximum authorized speed was 45 miles per hour, when the twenty-fifth to forty-seventh cars, inclusive, were derailed. The first the members of the crew knew of anything being wrong was when the engineer in looking toward the rear saw a separation in his train under the highway bridge. Immediately afterwards the brakes became applied in emergency as a result of the derailment. Less than one minute after the derailment occurred the derailed equipment, which obstructed the westward main track, was struck by Extra 6331 West,

As Extra 6331 West was approaching the point where the accident occurred the speed was about 25 miles per hour. The enginemen, and the front brakeman, who was on the engine, were killed. The conductor and the flagman were in the caboose, and these employees were not aware of anything being wrong until the accident occurred.

Under the rules, the crew of Extra 6336 East was required to protect adjacent tracks in both directions when their train was stopped as a result of the emergency application of the brakes. The enginemen of Extra 6336 East, and the front brakeman, who was on the engine, said that the engine of Extra 6331 West was too close to their engine to enable them to provide flag protection.

The investigation disclosed that the derailment of Extra 6336 East was caused by the breaking of the right front journal of the front truck of I.C. 29944, the twenty-fifth car. Marks on the track structure and on the truck-side involved indicate that the journal broke at a point 3,568 feet west of the highway bridge, and that the truck-side dropped sufficiently to be in contact with the right

rail to a point 2,407 feet eastward, where it struck the planking of a private-road grade crossing. Then the truck was directed to the right and the body of the car struck the supporting piers of the bridge structure immediately south of the track, and the general derailment followed.

I.C. 29944 was loaded at Ottawa, Ill., 232.13 miles west of the point of accident, on the Chicago, Rock Island and Pacific Railroad on January 16, and was delivered to the Grand Trunk Western Railroad at Blue Island, 157.13 miles west of the point of accident, on January 17. This car was inspected by mechanical forces of the G.T.W. at Blue Island on January 18, and all journal boxes were inspected and serviced. It was assembled in the train of Extra 6336 East at Blue Island about 5 a. m., January 18. The records of the G.T.W. indicate that this car was last inspected by mechanical forces at Olivers, Ind., 70.62 miles west of the point of accident, about 8:30 a. m., January 18. During this inspection not all of the journal boxes were opened. No defective condition was found in either of these inspections. The members of the crew of Extra 6336 East said that they made frequent observations of the equipment of the train throughout the trip, and no defective condition was observed. The crew of Extra 6336 East received proceed signals from the crew of a west-bound freight train near Pavilion, 12.58 miles west of the point of accident, and from operators at various points en route. However, loose snow swirling about the train made it difficult to see indications of a hot journal.

The failure of the journal involved consisted of an irregular break measuring from 6-1/2 inches to 8 inches inward from the end collar. The end of the journal remaining attached to the wheel assembly was badly worn by contact with the top of the journal box, and the top section of the journal box was worn through. The journal was overheated when it broke. The axle involved was provided with 5-1/2 by 10-inch journals. The diameter of the journal adjacent to the collar was 5.160 inches, and at the point of failure the diameter was 4.967 inches. Records of the Wabash Railroad indicate that the wheels and axle involved were applied to the car on August 26, 1947, at Peru, Ind. The wheels were cast on February 21, 1946. There was no mark on the axle and no record of the carrier to indicate the date or place of manufacture.

Cause

It is found that this accident was caused by a broken journal, and by derailed freight cars obstructing an adjacent main track in front of an approaching freight train.

Dated at Washington, D. C., this twenty-second day of March, 1948.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.