

Inv-2395

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT OF THE DIRECTOR
BUREAU OF SAFETY

ACCIDENT ON THE
GRAND TRUNK WESTERN RAILROAD

KALAMAZOO, MICH.

December 2, 1939

INVESTIGATION NO. 2395

SUMMARY

Inv-2395

Railroad: Grand Trunk Western
Date: December 2, 1939
Location: Kalamazoo, Mich.
Kind of accident: Collision
Equipment involved: Engine : motor-truck
Train number: Work Extra 5745
Engine number: 5745
Consist: One car : tractor and
semi-trailer
Speed: 8-20 m.p.h. : 12-30 m.p.h.
Operation: Timetable and train orders
Track: Single; 4°46'50" curve; grade
practically level
Highway: Tangent; practically level; crosses
track at angle of 58 degrees
Weather: Raining
Time: 8:15 a. m.
Casualties: 1 killed; 2 injured
Cause: Truck driven upon highway grade
crossing immediately in advance
of approaching engine

January 18, 1940.

To the Commission:

On December 2, 1939, there was a collision between a switching engine and a motor-truck at a highway grade crossing on the Grand Trunk Western Railroad at Kalamazoo, Mich., which resulted in the death of one railroad employee and the injury of the truck driver and one railroad employee. This accident was investigated in conjunction with the Michigan Public Service Commission.

Location and Method of Operation

This accident occurred on that part of the Chicago Division designated as the Kalamazoo Subdivision which extends between Pavilion and Kalamazoo, Mich., a distance of 11.31 miles. This is a single-track line over which trains are operated by timetable and train orders; there is no block system in use. At the intersection involved the railroad extends practically east and west; the highway extends northwest and southeast. The accident occurred within the city limits of Kalamazoo, at a point where route U.S. 12, locally known as King Highway, crosses the track at an angle of 38 degrees.

Approaching on the railroad from the west there is a tangent a distance of 349 feet, which is followed by a $4^{\circ}43'50''$ curve to the right extending approximately 904 feet to the center-line of the highway and 262 feet beyond. The grade for trains moving eastward over the crossing is 0.04 percent ascending. A whistle post is located approximately 325 feet west of the center-line of the crossing.

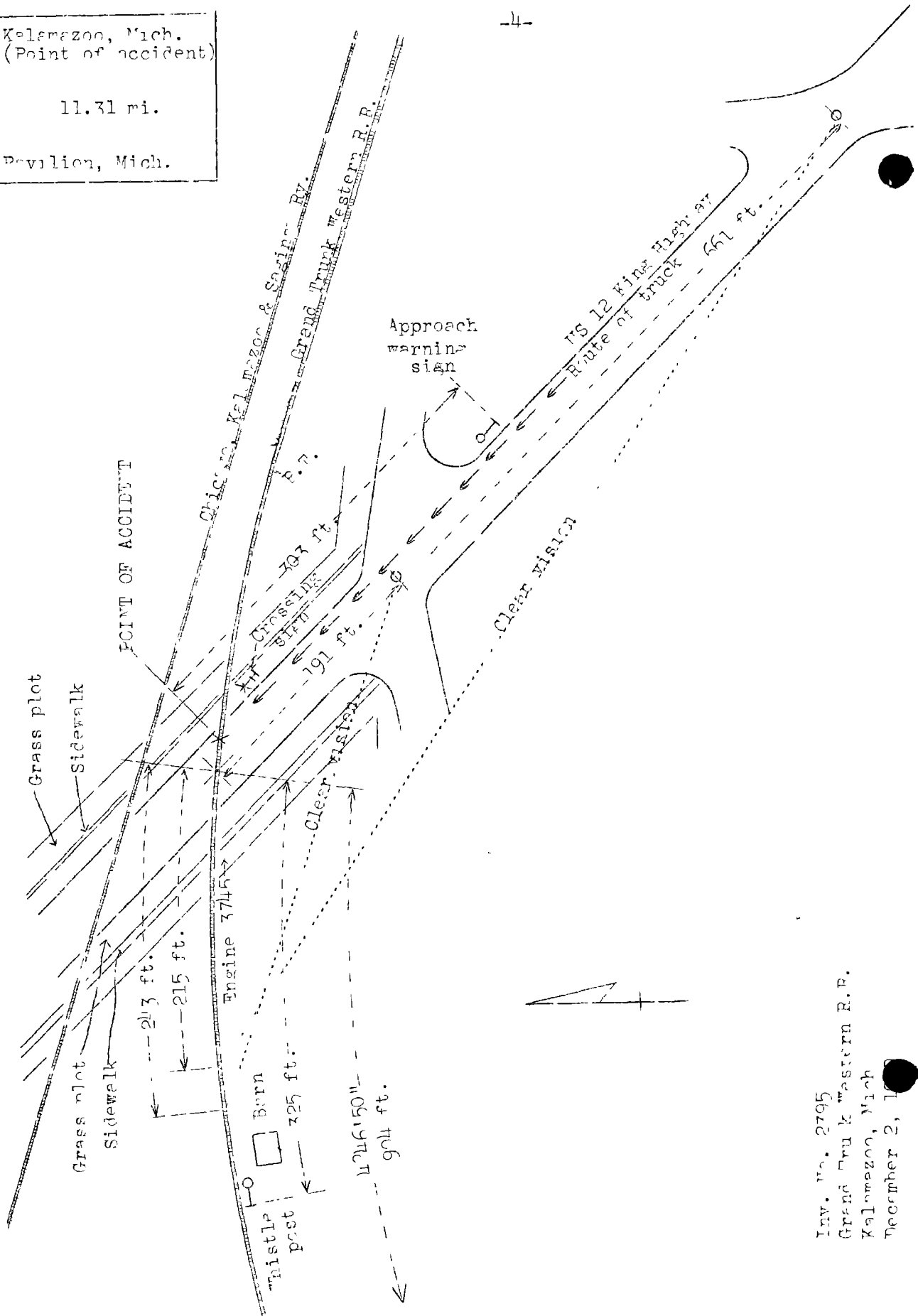
Approaching on the highway from the south a long tangent extends to the crossing and beyond; the grade is practically level. The highway has four lanes and the pavement, which is hard-surfaced, is 43 feet wide. The crossing is constructed of pre-cast, armored, reinforced concrete slabs, $16\frac{3}{4}$ inches wide, 6 inches thick and 3 feet long, extending to points beyond the curb line. Between the curbs and the sidewalks there is a grass plot on each side of the highway.

The crossing is protected by standard cross-bar signs, $9\frac{1}{2}$ feet in height, bearing the words "RAILROAD CROSSING" and below each cross-bar there is a sign bearing the wording "1 TRACK". The cross-bar sign for north-bound vehicles over this crossing is located just east of the curb and about 20 feet south of the track. At a point 303 feet south of the crossing and on the east side of the highway, there is an approach warning sign consisting of a metal disk bearing the letters "RR" in reflector buttons; a cross is painted on the disk and the

* Kalamazoo, Mich.
 (Point of accident)

 11.31 mi.

 o Pavilion, Mich.



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vertical line of this cross separates the letters; the horizontal line is just below the letters and it also contains a row of reflector buttons.

When a north-bound vehicle on the highway reaches a point 361 feet south of the crossing the driver can have a clear view of 215 feet of track west of the center-line of the highway at the crossing.

The view of the highway from the cab of an east-bound engine moving toward the crossing is obstructed by trees and shrubbery, and also by a barn which is located 13 feet south of the track and 263 feet west of the center-line of the crossing. This barn is 24 feet in length, 18 feet in width and $17\frac{1}{2}$ feet in height. When the cab of an engine moving backward reaches a point east of the barn and 243 feet west of the center line of the crossing the fireman can have a clear view of the highway a distance of 191 feet toward the south.

At a point 119 feet north of the crossing involved there is another highway grade crossing at the intersection of the Chicago, Kalamazoo & Saginaw Railway and highway U.S. 12; this crossing is protected in a manner similar to the one involved.

All the railroad traffic over both crossings consists of freight movements and practically all movements are made on week days, during daylight hours, and at low speeds; there are approximately eight movements daily. Train crews are not required to afford flag protection over these crossings.

Section 43 of the motor carrier rules and regulations established by the Michigan Public Utilities Commission, effective September 7, 1937, reads as follows:

43. Railroad Crossings. No driver of any motor vehicle under certificate or permit from this Commission, shall drive such vehicle across railroad tracks at grade without first bringing the vehicle to a full stop at a point where he has a clear view of the railroad track in either direction, and without having looked in both directions and ascertained that there are no approaching trains, and without having shifted the gears of the vehicle to low speed before proceeding across such tracks.

Rules 14(1) and 31 of the railroad company's operating rules provide that when approaching public road crossings at grade enginemen shall at whistle posts sound two long and two

short blasts of the engine whistle; this signal must be prolonged or repeated according to the speed of the train.

It was raining at the time of the accident, which occurred about 8:15 a.m.

Description

Work Extra 3745, with Conductor Conolly and Engineman Boyd in charge, departed from Pavilion at 5:40 a.m., according to the train sheet, with 26 loaded and 1 empty cars and arrived at Kalamazoo at 6 a.m. Subsequently regular switching work was performed. During the course of the movement involved the engine, with one car coupled ahead, was backing eastward at a speed estimated to have been between 8 and 20 miles per hour when the rear end of the tender struck the cab of a motor-truck.

The motor-truck involved was owned by Bender & Loudon, Akron, Ohio, and was being driven by Max Schollin, sole occupant, who held Ohio chauffeur's license No. 82192. It was a 6-cylinder White tractor, with a weight of 7,070 pounds stenciled thereon and was equipped with dual rear tires and an enclosed cab; it was hauling an open-top Fruehauf semi-trailer, with a weight of 5,910 pounds stenciled thereon, which was equipped with dual tires. The truck and trailer bore licenses and markings as follows: No. 92 Michigan license No. 4758, I.C.C. No. 20-441, P. U. C. C. 3509 Rx, P. U. C. C. 3906 IX, and Ohio license 588-B.3, 1939. The tractor was equipped with hydraulic brakes, and the semi-trailer with vacuum brakes. All tires were 9.00 by 20. The dual rear tires of the tractor were considerably worn, but the other tires were in good condition. The tractor had one windshield wiper, which operated from the top, and a windshield fan was located on the steering column. The windshield was 15 inches in height and 45 inches in width, and the glass in the left door of the cab was 15 inches in height and 26 inches in width. The semi-trailer carried a load of paper weighing 20,332 pounds and the total weight of the tractor, trailer, and lading was 33,312 pounds. The truck was en route from a paper mill to the billing office in Kalamazoo, preparatory to transporting the load to Ashland, Ohio. It was proceeding northward on the highway at a speed estimated to have been between 12 and 30 miles per hour. Instead of stopping for the crossing as required, it moved upon the track and was struck by Work Extra 3745.

The left side of the cab of the tractor was considerably damaged, and the semi-trailer also was damaged. The rear end of the tender of engine 3745 was slightly damaged.

The employee killed was the conductor, and the employee injured was a brakeman; both were on the rear footboard of the tender.

Summary of Evidence

Engineman Boyd stated that his engine, with a car coupled ahead, was backing at a speed of about 10 miles per hour. The storm curtains were tied back. It was drizzling and he was maintaining a lookout from his side of the cab. He saw no automobile standing on the north side of the crossing. There was neither smoke nor steam from the engine to interfere with vision. He was using a light throttle, the proper engine-whistle crossing signal was being sounded, and the automatic engine-bell ringer was in operation. When the rear end of the tender was approximately at the center-line of the highway the fireman called a warning of danger, at which time the engine whistle was still being sounded. This was the first intimation he had of anything wrong. He closed the throttle immediately and applied the automatic brake in emergency; after the truck was struck the engine moved about 10 feet. The air brakes functioned properly en route. The air was not cut through to the car coupled ahead, but he said that this was not the general practice. Because of the short time and space available after the fireman called the warning of danger he could not state definitely whether any brake action was obtained following the emergency application but he thought the brakes responded. He did not know of any rule of the railroad company or any city ordinance that required train crews to flag this crossing. When approaching the crossing he was not depending upon a signal from any member of the train crew. He said that he relies upon his own vision and that of the fireman to determine whether the crossing is clear, except when pushing cars, in which event a stop is made and the crossing is flagged.

Fireman Kent stated that the back-up movement was made at a speed of about 10 miles per hour and he was sitting on his seat-box leaning out the side cab window and facing east. The engine bell was ringing and the proper engine-whistle signal was being sounded for the crossing. When about 150 feet west of the highway he observed the truck approaching at a point about 500 feet south of the crossing. The truck was moving at a good rate of speed, then it reduced speed as if it were going to stop, but when it reached a point about 150 feet south of the crossing its speed was increased, seemingly in an attempt to beat the engine over the crossing; he saw the truck driver looking toward the engine. At this time the rear end of the tender had almost reached the west edge of the pavement and immediately he shouted to the engineman to apply the brakes in emergency. The truck then swerved toward the right curb and away from the engine, but it was too late to avert the accident; the tender struck the truck and moved it about 10 or 20 feet. Approaching the crossing he held no conversation with the engineman and there was no one else in the engine cab. He could not see the two members of the train crew who were on the rear footboard of the tender. No other automobile was between the truck and the crossing.

Brakeman Campbell was interrogated at a hospital. He stated that he was on the rear footboard of the tender and at the north side of the coupler, and the conductor was on the south side. While backing the speed of the engine did not exceed 10 miles per hour. The engine bell was ringing and the proper engine-whistle crossing signal was being sounded. When the rear end of the tender reached the west curb the truck was about 330 feet south of the crossing. He asked the conductor whether he thought the truck would stop and the conductor replied that he did not know. Soon afterward he realized that a collision was imminent and he got off as the impact occurred. He estimated that the speed of his engine was about 8 miles per hour and that of the truck at least 15 miles per hour. The conductor was standing on the footboard when Brakeman Campbell lay saw him.

Brakeman Keagle stated that he was on the north side of the front end of the engine and he did not see the truck approaching. He did not see any train on the Chicago, Kalamazoo & Saginaw Railway in the vicinity of the crossing of that line. There is no requirement and it is not the practice to stop and to have a member of the crew flag the crossing involved before an engine moves over it.

Max Schellin, driver of the truck involved, stated that he is 37 years old and has driven trucks for at least 20 years. He has been an employee of Bender & Loudon for 4 years. He has driven the tractor involved since about June, 1939; it was acquired new a short time previously. He had been off duty in Jackson from about 10 a.m., December 1, to 5 a.m., December 2; at the latter hour he left Jackson for Kalamazoo, a distance of about 60 miles; rain was encountered the entire distance, but it did not interfere with his vision. The truck was in good mechanical condition and the windshield wiper, fan, and brakes functioned properly; no trouble in making stops on the wet pavement was experienced en route. The right-door window of the cab was entirely closed but the left-door window, on his side, was open from the top about 2 inches for ventilation. None of the windows was steamed. His truck was loaded with about 10 tons of paper and was moving northward in the right-hand lane next to the curb. The motor was not fully heated and he was driving in third gear at a speed of about 15 or 18 miles per hour, but the motor was not making much noise. An automobile overtaking and passing him, and swerving immediately in front of his truck just south of the crossing, caused him to notice the engine. He neither heard the whistle sounded for the crossing nor saw the engine until it had almost reached his truck. He was not certain whether he had time to apply the brakes. He thought that he tried to swerve his truck away from the engine but it was then too late to avert the accident.

George Loomis, resident of Constock, Mich., stated that he was driving his automobile about 50 feet behind the truck involved. He said that the speed limit for vehicles in this vicinity is 35 miles per hour and that his own automobile was moving at a speed of about 30 miles per hour and gaining slightly on the truck, which was moving between 25 and 30 miles per hour. When at a point about 350 feet south of the crossing he decided to pass the truck, but distinctly hearing the engine whistle and bell he pulled in behind the truck and followed it at a distance of about 100 feet. Both windshield wipers on his car were operating. He saw steam rising from the engine before it emerged from behind the barn, then he saw the engine backing at a speed of about 15 or 20 miles per hour. He was so intent upon watching the engine and stopping his own car before reaching the crossing that he did not see whether the brake stop-light on the rear of the truck indicated that the truck driver was applying the brakes. The engine bell continued to ring after the accident.

Melvin L. Hatfield, a resident of Kalamazoo, Mich., stated that he was driving southward on the highway. The windshield wiper was operating and all the windows on his car were closed. When about 300 or 400 feet north of the crossing he distinctly heard the engine whistle sounded. Immediately afterward he saw the truck approaching from the opposite direction and realized that a collision was inevitable. He estimated the speed of both the truck and the engine to have been about 12 or 15 miles per hour when the impact occurred.

Clair C. Loudon, of Bender & Loudon, stated that Driver Max Schellin had been in their service for 3 years and prior to this accident he had been involved in three minor accidents during that period. The driver's log book from November 1 to November 30, 1939, showed that he had his full rest for each 10-hour driving period. The longest he had been on duty in any 24-hour period was 14½ hours on November 9. He had a total of 207 hours on duty for the month. No record was available since November 30 because his log book had been either lost in the accident or not returned to the Akron office. Tractor No. 134, the power unit involved, was purchased May 20, 1939, from White Sales and Service, Akron, and the trailer on September 25, 1935, from the Fruehauf Trailer Co. Both units had been kept in the best mechanical condition through periodic general check up, and a general check was made at the start of each trip. Practically all maintenance is handled by their own maintenance crew. On some major repair jobs the manufacturer's service department is utilized.

Observations of the Commission's Inspectors

A check of traffic at King Highway crossing for the 12-hour period from 6 a.m. to 6 p.m., December 9, 1939, showed a total of 7 freight trains, 126 pedestrians, 1,158 trucks and 4,374 passenger automobiles. No bus used the crossing during this period. No train movement is made over this crossing from 6 p.m. to 6 a.m.

Tests made with an engine of the same type as the one involved disclosed that the view was as previously described.

Discussion

According to the evidence, the engine was backing toward the crossing at a speed variously estimated at from 8 to 20 miles per hour. The engine bell was ringing and the whistle was being sounded. The fireman warned the engineman that a truck was approaching. The engineman immediately applied the brakes in emergency but the distance was not sufficient in which to stop before striking the truck.

The truck approached the crossing at a speed variously estimated at from 15 to 30 miles per hour. The driver did not see the engine until he was almost upon the crossing. He thought that he swerved the truck to the right but he was unable to prevent its being struck. The truck driver stated that he did not hear the engine whistle being sounded. Other witnesses, who were at greater distances from the crossing than he, heard the engine whistle sounded. The truck was being operated in third gear but the driver said it was not making much noise. The window in the right cab-door was closed but the window in the left cab-door was open about two inches at the top; this condition, combined with the noise of the motor, may account for his failure to hear the engine whistle being sounded. It was raining in this vicinity but the driver said that his vision was not restricted.

The crossing was protected by two standard cross-buck signs and an advance warning sign. The driver, who had 20 years experience in truck driving, was familiar with this territory. Under the regulations of the Michigan Public Utilities Commission, the driver of a vehicle under certificate or permit from that Commission must stop at a highway grade crossing at a point where he has a clear view of the railroad tracks in either direction and must look in both directions, ascertain that there are no approaching trains, and shift the gears to low speed before proceeding upon the crossing. The truck driver failed to comply with this regulation; it is obvious that if he had obeyed this regulation the accident would not have occurred. There is

no rule or city ordinance that requires trains to afford flag protection at this crossing.

Conclusion

This accident was caused by a motor-truck being driven upon a highway grade crossing immediately in advance of an approaching engine.

Respectfully submitted,

S. N. MILLS

Director.