Inv-2377

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC RAILROAD

MARION YARD, IOWA

SEPTEMBER 8, 1939

INVESTIGATION NO. 2377

SUMMARY

Inv-2377

Railroad:	Chicago, Milwaukee, St.Paul & Pacific	
Date:	September 8, 1939	
Location:	Marion Yard, Iowa	
Kind of accident:	Derailment - wreckage struck by passenger train	
Trains involved:	Cut of runaway cars	: Passenger
Train number:		: 107
Engine number:		: 127
Consist:	28 cars	: 9 cars
Speed:	Standing	: 60-65 m. p. h.
Operation:	Timetable, train orders, and automatic block system	
Track:	Double; tangent; 0.70 percent ascending grade for west-bound trains	
Weather:	Clear and dark	
Time:	About 12:29 a. m.	
Casualties:	9 injured	
Cause:	Failure of train crew to secure properly a cut of cars standing on a descending grade.	

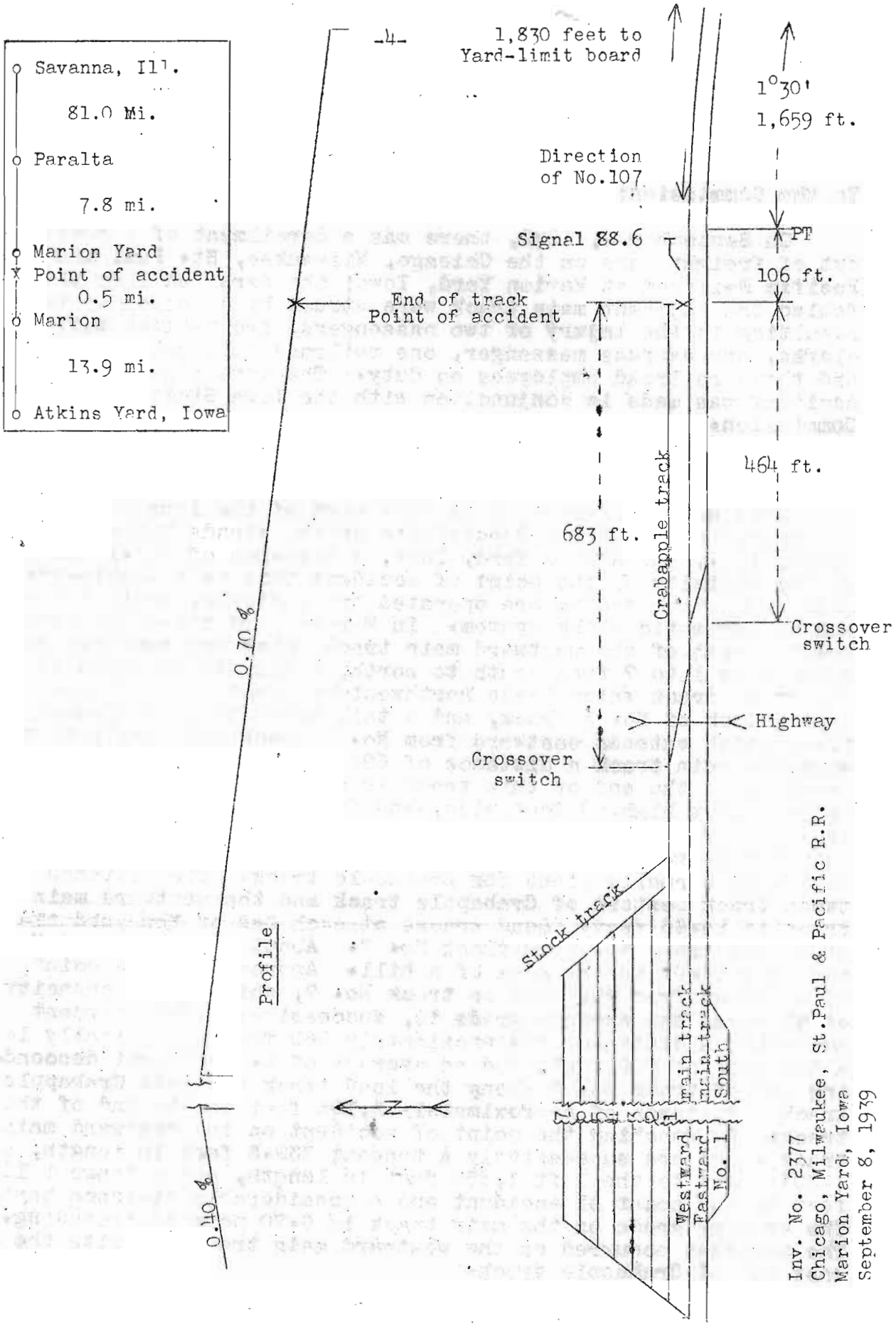
October 23, 1939.

To the Commission:

On September 8, 1939, there was a derailment of a runaway cut of freight cars on the Chicago, Milwaukee, St. Paul and Pacific Railroad at Marion Yard, Iowa; the derailed cars that fouled the adjacent main track were struck by a passenger train, resulting in the injury of two passengers, two railway mail clerks, one express messenger, one railroad employee off duty, and three railroad employees on duty. The investigation of this accident was made in conjunction with the Iowa State Commerce Commission.

Location and Method of Operation

This accident occurred on that part of the Iowa Division designated as the First Subdivision which extends between Savanna, Ill., and Atkins Yard, Iowa, a distance of 103.2 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. In Marion yard there are seven tracks north of the westward main track which are numbered consecutively 1 to 7 from south to north, a spur track known as the Stock track which leads northwestward from a point near the east switch of No. 1 track, and a tail track known as Crabapple track which extends eastward from No. 1 track and parallels the westward main track a distance of 683 feet. The only protection provided at the end of this track is a pile of dirt and sand about 3 feet high, 8 feet wide, and from 4 to 6 feet long. A crossover from No. 1 track to the eastward main track forms a junction between No. 1 track and Crabapple track and its west switch is normally lined for Crabapple track. The distance between track centers of Crabapple track and the westward main track is 14.45 feet. Lead tracks at each end of the yard extend from track No. 1 to track No. 7. About the center of Marion yard there is the apex of a hill. Approaching the point of accident from the west on track No. 7, which has a capacity of 49 cars, the average grade is, successively, 0.40 percent ascending a distance of approximately 960 feet, practically level a distance of 600 feet, and an average of 0.70 percent descending out of track No. 7 along the lead track and into Crabapple track a distance of approximately 2,195 feet to the end of the track. Approaching the point of accident on the westward main track there are successively a tangent 339.5 feet in length, a 1°30' curve to the left 1,659 feet in length, and a tangent 106 feet to the point of accident and a considerable distance beyond. The average grade on the main track is 0.70 percent ascending. The accident occurred on the westward main track opposite the east end of Crabapple track.



Inv. No. 2377
Chicago, Milwaukee, St.Paul & Pacific R.R.
Marion Yard, Iowa
September 8, 1939

Automatic block signal 88.6 governing westward movements on the westward track is located 98 feet east of the east end of Crabapple track.

A public highway crosses the tracks between the switches of the crossover leading from the westward main track to the lead track.

The maximum authorized speed for passenger trains in the vicinity of the point of accident is 70 miles per hour.

Rule 103, of the Consolidated Code of Transportation Rules and General Instructions, reads in part:

> "When cars are pushed by an engine (except when shifting or making up trains in yard), a trainman must take a conspicuous position on the leading car, * * * "

Rule 801 reads in part:

> " * * *
> Before moving cars * * * on * * * yard tracks, it must be known that the cars can be moved with safety. * * * "

The weather was clear at the time of the accident, which occurred about 12:29 a. m.

Description

A transfer train, in charge of Conductor Goite and Engineman Vaughan and hauled by engine 541, arrived in Marion Yard about 1:55 p. m., September 7, and, after performing switching, proceeded to Cedar Rapids, and returned to Marion Yard shortly before 8:45 p. m. After placing several cars on track No. 7, this train departed about 9:45 p. m. and about or just prior to that time 28 cars, of 37 left standing on that track, rolled eastward to the east end of Crabapple track. The first and second cars stopped parallel with the main track and east of the bank of earth at the end of Crabapple track. The west end of the first car was telescoped by the second car a distance of 3 feet and the second car was telescoped a distance of one-half its length. The third and fourth cars were buckled northward and the east end of the third car fouled the westward main track.

No. 107, a west-bound passenger train, consisted of one baggage car, one mail and express car, one coach, two Pullman sleeping cars, one coach, one club car, and two Pullman sleeping cars, in the order named, each of all-steel construction, hauled by engine 127, and was in charge of Conductor Johnson and Engine-

man Goss. This train departed from Savanna at 10:56 p. m., September 7, according to the train sheet, 11 minutes late, left Oxford Jct., 34.4 miles east of Marion Yard, at 11:57 p.m., 10 minutes late, and, while moving at a speed estimated at between 60 and 65 miles per hour, collided with cars fouling the westward main track. The engine and the tender remained coupled and stopped on their right sides parallel to and near the north rail of the westward main track approximately 455 feet beyond the point of collision. The first car, badly damaged, stopped about 10 feet behind the tender, practically upright, and on top of cars on Crabapple track. The second car, badly damaged, stopped on its right side across both main tracks with its west end approximately 69 feet west of the rear of the tender. The third car was derailed to the right and stopped upright with the east end still coupled to the fourth car and fouling the eastward main track; the west end was badly damaged. The fourth car stopped upright across both main tracks. The fifth and the sixth cars were derailed; they stopped upright and in line with the westward main track.

As a result of the impact there was a separation between the twelfth and the thirteenth cars standing on Crabapple track. The third to thirteenth cars, inclusive, were more or less damaged. Some of the cars were shoved back a distance of one and one-half car lengths.

The employees injured were the engineman, the fireman, and the baggageman of No. 107.

Summary of Evidence

Conductor Goite, in charge of the transfer train, stated that his train arrived at Marion Yard about 1:55 p. m. Between 3:15 and 3:30 p. m. the engine proceeded to the stock yard and while the engine was at that point he inspected the cars on track No. 7 and found five hand brakes set on cars standing near the east end; he felt the brake chains and found them tight. About 3:45 p. m. the engine returned to the west end of the yard and four cars were shoved into track No. 7 and were coupled to the cars standing on that track. To determine if all cars were coupled they were pulled westward about 1 car length, and then were shoved eastward a distance of approximately 10 car lengths. The train then departed for Cedar Rapids and later returned to Marion Yard. About 8:45 p. m. 10 cars were placed on track No. 7 and were shoved eastward. He instructed the rear brakeman to ascertain if all cars on this track were coupled. About 9:20 p. m. the brakeman informed him that all cars were coupled. At 9:30 p. m. about 10 cars more were shoved in on track No. 7 against the other cars standing on this track, after which the entire cut of about 44 cars was shoved eastward to clear the adjacent track. He made no arrangements to have any

member of his crew at the east end of the track while the cars were being shoved. The switching was completed about 9:45 p. m. and the train departed almost immediately. He said that he is familiar with the physical characteristics of Marion yard and of the possibility of cars not properly secured running out of these tracks. He was positive that there were sufficient hand brakes set on the cars to hold them. He stated that he failed to comply with that part of Rule 103 which requires a trainman to take a conspicuous position on the leading car when cars are pushed by an engine, and that he failed to comply with that part of Rule 801 which requires that before moving cars on yard tracks it must be known that the cars can be moved with safety. He said that under these rules, after making the last shove on track No. 7, it was his duty to know that the cars were properly secured.

Brakeman Eckhart, of the transfer train, corroborated the statement of the conductor regarding the various movements. He neither set any brakes when the first cars were placed on track No. 7, nor examined any of the cars to ascertain if the brakes were set. The only evidence he had that hand brakes were set was the heavy exhaust of the engine and the noise made by the brakes as the cars were being moved. He thought that there were sufficient hand brakes set to hold the cars. He coupled the second cut of cars to those standing on that track. When the last cut of cars was placed on track No. 7 he was engaged in setting hand brakes on cars on other tracks. He received no instructions from the conductor in connection with the work he was to perform. He said that he was fieldman and it was his duty to protect any shoving movement and to know that hand brakes were set. He is familiar with track conditions in Marion yard and with the possibility of cars, not properly secured, running out of these tracks.

The statement of Brakeman Tucker of the transfer train gave no additional information of value.

Engineman Vaughan, of the transfer train, stated that when shoving the last cut of cars on track No. 7 it was necessary to take slack twice before the cars could be moved. All the cars appeared to be coupled. While shoving, the speed was approximately three miles per hour. The straight air brake was used lightly in stopping and it appeared that the cars were well secured. Because of the difficulty in shoving the cars and the ease with which they stopped, it was his opinion that there were sufficient hand brakes set to hold the cars.

Fireman Weaver, of the transfer train, gave no additional information.

Engineman Goss, of No. 107, stated that an air-brake test

was made at Savanna; after leaving that point a running test was made and the brakes functioned properly en route. Approaching Marion Yard the train was moving at a speed of approximately 70 miles per hour; the signals displayed clear indications. Shortly after passing the mile-board a service application of the brakes was made and approaching signal 88.6 the fireman called a clear indication. As the engine passed the yard-limit board he called a warning, at which time the speed of the train was 63 miles per hour, and immediately thereafter the collision occurred. The view of the track from his side of the engine was restricted by the curve. The weather was clear at the time of the accident.

Fireman Brock, of No. 107, stated that the proper air-brake tests were made at Savanna and after leaving that point, and the brakes functioned properly en route. Approaching Marion Yard he was on his seatbox, the headlight was burning brightly, and there was nothing about the engine that interfered with his vision ahead. The speed of the train was between 60 and 65 miles per hour and the signals displayed clear indications. When near the west end of the curve he observed by the reflection of the headlight some cars, about 8 or 10 car lengths distant, leaning toward and fouling the main track. He called a warning to the engineman, who immediately made an emergency application of the air brakes, and the accident occurred shortly thereafter. He thought that he saw the cars about as soon as it was possible to see them.

The statements of Conductor Johnson, Brakeman May, and Flagman Cassidy, of No. 107, gave no additional information of value.

Traveling Engineer Jefferson stated that he was in the third car of No. 107. Approximately one mile east of the point of accident he felt a light application of the air brakes; they were released and very shortly afterward he felt an emergency application and almost instantly felt the force of the impact. About 2 a. m., in company with the division engineer, he made an inspection of the hand brakes on the cars involved in the accident; they found the brakes on the seventh car from the west end of the cut properly set; the brake on the fifth car from the east end and the brake on the most easterly car only partly set.

Yard Clerk Grote, on duty in Marion yard from 1:30 to 10:30 p. m., September 7, stated that he checked track No. 7 between 2:30 and 3 p. m. and found 21 cars on this track; the most easterly car was just east of the peak of the grade; these cars had been on this track for a period of more than 24 hours. About 3:30 p. m. 3 other cars were placed on this track and about 8:30 p. m., 10 more cars were added. Between 8:40 and 9:20 p. m. another check was made and about 9:15 p. m. 3 other cars were placed on this track and while making these checks he did not

notice any separation between the cars. All switching was done at the west end of the yard and no other engine worked in the yard between 9:30 and 10:40 p. m.

Trainmaster Shellenbarger stated that it was his opinion the third car at the east end of the cut was the one which had fouled the westward main track and was struck by the locomotive of No. 107. About 8-1/2 hours after the accident he inspected the freight cars involved and found the hand brake on the first car properly set, the brake on the fifth car only partially set, and the brake on the twenty-second car properly set. There were 8 of the first 13 cars at the east end so badly damaged that it was impossible to determine whether the hand brakes on them had been set. The knuckle at the west end of the last car in the cut was open; this car was equipped with a pushdown type of uncoupling lever.

Mr. and Mrs. L. L. Klingler, who reside in Marion, stated that about 9:45 p. m., September 7, they were driving southward in an automobile on the road that crosses the tracks in the vicinity of the east switch of Marion yard. When they came near the tracks they found that the crossing was blocked by cars.

Observation of the Commission's Inspectors

The Commission's inspectors inspected the cars that had run away and found that the first two cars had run through the earth bank at the end of Crabapple track. The west end of the second car had stopped just over the end of the track. The west end of the second car was badly damaged; the superstructure of the third car was demolished and its steel underframe badly bent. These cars appeared to have been involved in the first impact and the east end of the ninth car bore marks indicating that it had received a severe blow. The east end of the eleventh car was driven into the north side of the first car of No. 107. The east end of the thirteenth car was badly damaged; this indicated that this car had been struck by the locomotive.

Discussion

According to the evidence, when the transfer train arrived at Marion Yard about 1:55 p. m. there were about 21 cars on track No. 7 and the most easterly car was located just east of the peak of the grade. Shortly thereafter 3 or 4 cars were shoved in from the west end of track No. 7 and were coupled to the cars already on that track. All cars were then shoved eastward about 10 car lengths and then the train departed. About 5 hours later, the transfer train returned to this yard and shoved 10 cars in from the west end of track No. 7 and 45 minutes later about 10 more cars were shoved in from the west end of this track. The total of approximately 44 cars on track No. 7 were shoved

eastward far enough to clear the west end of the adjacent track and about 9:45 p. m. the train departed. About 9:45 p. m. two persons in an automobile approaching a highway crossing near the east end of the yard found the crossing blocked by cars, which later were found to be cars that had been left previously on track No. 7. The evidence was to the effect that the engine of the transfer train was the only engine operated in the yard during the day of the accident. This indicates that the cars rolled out at the east end immediately following the last switching movement.

Approaching the scene of the accident, No. 107 received clear signal indications. The weather was clear but the vision ahead was obstructed by track curvature. The fireman did not see the obstruction until 8 or 10 car lengths distant. The engineman immediately applied the brakes in emergency but the distance was not sufficient in which to stop short of the obstruction.

The rules required that an employee should take a conspicuous position on the leading car of the cut of cars before such cars were shoved eastward; also, before moving cars on any yard track the crew were required to know that the cars could be moved with safety. The east portion of track No. 7 was on a 0.70 percent descending grade and it was dark at the time the last shoving movement was made, but no employee stationed himself at or near the east end of this cut of cars. It is apparent that safety required that an employee station himself on the east end of this cut before the movement was begun, and it is also apparent that had he done so, this accident should have been averted.

The members of the transfer crew thought that there were sufficient hand brakes applied on the cars at the east end to hold the cars from running out at that end. The conductor said that the brakes on five cars near the east end of track No. 7 were applied. Because of the damage to many of the cars as a result of the accident, it was impossible to determine the number of brakes that had been set, but the brakes on two cars were found properly applied and the brake on one car partially applied.

Conclusion

This accident was caused by failure to apply a sufficient number of hand brakes to secure cars left on a yard track on a descending grade.

Respectfully submitted

S. N. MILLS,

Director