INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE CHICAGO GREAT WESTERN RAILROAD NEAR INVER GROVE, MINN., ON MAY 3, 1931.

June 9, 1931.

To the Commission:

On May 3, 1931, there was a derailment of a freight train on the Chicago Great Western Railroad near Inver Grove, Minn., which resulted in the death of one trespasser and the injury of three employees.

Location and method of operation

This accident occurred on the Tenth District, Minnesota Division, which extends between Hayfield and St. Paul, Minn., a distance of 80.9 miles, and in the vicinity of the point of accident is a single-track line over which trains are operated by time-table, train orders, and an automatic block-signal system. The accident occurred about 3 miles east of Inver Grove, approaching this point from the east, there is a 2° curve to the right 916 feet in length, 645 feet of tangent, and then a 4° curve to the left 687 feet in length, the first marks appearing on this latter curve at a point near its eastern end, about at the beginning of a cut 12 feet in depth. The grade is descending for westbound trains for a distance of about 7,000 feet, varying from 0.64 to 1.01 per cent, and is 0.85 per cent descending at the point of accident.

The track is laid with 90-pound rails, 39 feet in length, with from 20 to 21 hardwood ties to the rail-length, tie-plated, single-spiked, and ballasted with about 12 inches of gravel. The gauge and surface of the track were well maintained.

The weather was clear at the time of the accident, which occurred about 3.55 p. m.

Description

Westbound freight train extra 875 consisted of 61 cars and a caboose, hauled by engine 875, of the 2-10-4 type, and was in charge of Conductor Wheaton and Engineman Hall. It left Randolph, Minn., 25.1 miles from Inver Grove, at 3.20 p.m., according to the train sheet, and was derailed east of Inver Grove while traveling at a speed estimated by the crew to have been 20 or 25 miles per hour.

The pony-truck wheels of the engine derailed to the right or outside of the curve and then followed the rails closely until they encountered a farm crossing. At this point the engine turned off toward the outside of the curve, went down the fill beyond the leaving end of the curve, and turned over on its right side with its head end 910 feet beyond the first mark of derailment. The first 31 cars in the train were derailed, the majority of them coming to rest directly across the track and within a distance of 600 feet. The trespasser killed was riding in the tenth car from the engine, while the employees injured were the engineman, fireman and head brakeman.

Summary of Evidence

Engineman Hall said he shut off steam at the top of the hill, and made a 10-pound application of the air-brakes just after passing a bridge which is located about 3,000 feet from the point of accident, and he thought that at this time the speed of his train was about 35 miles per hour. Shortly afterwards he noticed fire and dust flying and thought that there was something dragging under the engine, and he said he then placed the brake-valve handle in the emergency position, without having released the initial reduction. He was unable to locate the position of his engine at the time he remarked to the fireman that there was something dragging, he felt that this was before the engine reached the point where the marks afterwards were found on the curve to the left, although his subsequent statements indicated that practically no time elapsed between his noticing something wrong and his feeling the engine running on the ties. He estimated the speed of the train at the time the engine left the track to have been between 20 and 25 miles per hour. Engineman Hall further stated that he had not noticed anything wrong with the engine while en route, nor had he noticed anything in the way of a dragging brake beam or other dragging equipment, and after the accident he again examined the engine but found nothing wrong with it.

The statements of Fireman Clark were practically the same as those of Engineman Hall, except that he said the speed was about 35 miles per hour when the engineman first applied the brakes, and he fixed the location of the engine at that time as being half way between the bridge referred to by the engineman, and the point of accident. No statement was obtained from Head Brakeman O'Hara on account of injuries sustained in the accident.

Conductor Wheaton said his train left Randolph at 3.15 p m., and that there was no excessive speed en route. As the train approached the point of accident he was riding in the cupola of the caboose and felt an application of the air brakes, which according to the caboose gauge amounted to a 30-pound reduction. The air seemed to release and then to apply again, harder than before, and he decided that the train must have struck something, the stop, however, was not severe. Conductor Wheaton said he looked at his watch, at which time it was 3.55 p.m., told the rear brakeman to look out for a following train, and then started ahead. On examining the track he found that after the engine had climbed the rail it had run along on the ties a distance he estimated to have been about 165 feet before leaving the ties and finally turning over. He estimated the speed of his train approaching the point of accident to have been 20 or 25 miles per hour.

Flagman Johnson also said it was 3.15 p.m. when his train started from Randolph, and that as his train approached the point of accident he felt an application of the air brakes, which reduced the speed of the train to 25 miles per hour, and this was followed by a release and then another application which brought the train to a stop.

Agent Telegrapher Cantell, on duty at Randolph, stated that when extra 875 was departing from his station he reported it to the dispatcher as having departed at 3.20 p m., at which time its rear end was about 1,000 feet west of the station. This entry was made in his records with an indelible pencil, and a few days later he found that the entry had been changed to show the departing time of the train as 3.15 p.m., instead of 3.20 p m., the change apparently having been made with a black pencil. He said he had made inquiry in an endeavor to ascertain by whom the change was made, but at the time of the investigation definite information on this point had not been developed.

Examination of the track showed that the first mark of derailment was a flange mark on the running surface of the outside rail of the curve. This mark extended diagonally across the ball of the rail to the point where it dropped off on the outside. There were then flange marks of the heads of bolts and spikes for a distance of 235 feet to the point where the derailed wheels came in contact with the planks at a farm crossing and turned off toward the right, leaving the ends of the ties and tearing up the track, apparently only the pony-truck wheels had been derailed until the farm crossing was reached. Measurements of the track showed the gauge and elevation to be well maintained, and examination did not reveal that there had been any obstruction on the rail or that there was any evidence of dragging equipment. The gauge was from one-quarter to

one-half inch wide on the curve, and the elevation generally was $3\frac{1}{2}$ inches.

Careful inspection of the engine was made at the point of accident, and the truck also was carefully examined after it had been removed from the point where it was located. The flanges and treads were in perfect condition and nothing was found to indicate that there was any defective condition of equipment which could have been responsible for the accident.

Conclusions

The cause of this accident was not definitely ascertained.

The first mark of derailment was a flange mark on the running surface of the outside rail on the curve, apparently made by the right pony-truck wheel, and it appeared that this was the only pair of wheels derailed until a planked farm crossing was reached, at which point the engine was turned off toward the outside of the curve, tearing up the track, and resulting in the derailment of the cars. Careful examination of both track and equipment failed to reveal anything which it was thought could have caused the accident

The employees involved were experienced men, and at the time of the accident none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. BORLAND,

Director.