IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE NEW ORLEANS, TEXAS & MEXICO RAILROAD, NEAR GORDON, LA., ON AUGUST 5, 1921.

September 17, 1921.

On August 5, 1921, there was a derailment of a freight train on the New Orleans, Texas & Mexico Railroad near Gordon La., which resulted in the death of 2 employees. After investigation of this accident, the Chief of the Bureau of Safety reports as follows:

Location and method of operation.

The second district of the Louisiana Division, on which this accident occurred, extends from Anchorage to DeQuincy, La., a distance of 135.9 miles, and is a single-track line over which trains are operated by time-table and train orders, no block-signal system being in use. The accident occurred at a point 1.49 miles west of the station sign at Gordon. Approaching the point of accident from the east the track is tangent for several miles, the grade is 0.32 per cent descending for about 1 mile. The track is laid with 75-pound rails, 33 feet in length, single-spiked to 20 treated pine and cypress ties to the rail-length; tie plates are used on curves. The track is ballasted with about 18 inches of mixed gravel and shell and is maintained in fair condition. The speed of freight trains is restricted by time-table rule to 25 miles an hour. The weather was clear and hot at the time of the accident, which occurred at about 3.29 p.m.

Description.

The train involved in this accident was westbound freight train extra 113, consisting of 46 cars and a caboose,

hauled by engine 113, and was in charge of Conductor Bloodworth and Engineman Ober. According to the train sheet this train departed from Fulton, approximately 9.3 miles east of the point of derailment and the last open telegraph office, at 3.05 p.m., and was derailed near Gordon while travelling at a speed estimated by the crew at from 20 to 25 miles an hour.

The engine and first 44 cars were not derailed, and came to a stop with the 44th car approximately 1,284 feet west of the western end of the derailed cars, and with the rear 4 cars separated from the 40th car a distance of about 4 car-lengths. The last 2 cars and caboose were derailed to the right and came to rest on their right sides with the head end of the 45th car 410 feet west of the point of derailment, the trucks of the 45th car were between that car and the track, while the trucks of the 46th car, a tank car, and of the caboose, were bunched together and stopped near the rear end of the caboose. The employees killed were the conductor and a brakeman.

Summary of Evidence.

At the time of the accident a section gang in charge of Section Foreman Rainwater was working on the track west of Gordon and slow flags had been placed in position to protect this work, one being near the station at Gordon and the other about 5 telegraph poles east of the point of accident. Engineman Ober said that after passing Gordon, at 3.24 p.m., he ob-

served the slow flag and reduced the speed of his train to 18 miles an hour, at the same time sounding the whistle for a signal. He received a proceed signal from the section foreman and said he made an application of the air brakes in order to control the train until after it passed through the protected territory. On passing the second slow flag, which marked the western limit of the protected territory, he placed the brake valve in the running position and said he was working steam with a drifting throttle when he heard the brake valve make a noise as if the train had broken in two. He said the air brakes applied in emergency, but that the indicator only dropped about 10 or 15 pounds, and that he then applied the straight air brakes in order to help stop the train. Engineman Ober said he had felt no jar or roll as the engine passed over the point of derailment.

Fireman Allen and Head Brakeman Mason, as well as Brakeman Brown, who was not on duty but was riding on the head end of the train, knew nothing of the accident until they felt an emergency application of the air brakes. Engineman Ober thought the accident might have been due to the rocking of the tank car loaded with molasses, next to the caboose, with nothing to steady it, while Fireman Allen and Head Brakeman Mason made no investigation and had formed no opinion as to the cause of the accident.

Wreck Foreman Dunham expressed the opinion that the tank car was the first to be derailed, the manner in which the couplers were twisted on the head end of this car and the

rear end of the car ahead of it indicating that this was th case. He also noticed that the tank car had been riding heavily on the side bearings and saw marks on the rails, but did not know what caused the accident.

The e stimates as to the speed of extra 113 varied considerably, those of Engineman Ober, Fireman Allen and Head Brakeman Mason varied from 30 to 35 miles an hour, while Brakeman Brown said it was not less than 45 miles an hour. Section Foreman Rainwater, who was working about 1/2 mile east of where the accident occurred, said the engineman sounded the whistle and that he then gave the engineman a proceed signal; he thought the speed of the train as it passed him was about 40 miles an hour. H. W. Brown, a merchant and assistant postmaster at Cordon, was at his store about 200 feet from the track and said that the speed of the train passing that point was about 40 miles an hour, he had driven an automobile for about 10 years and thought he was a fairly good judge of speed. It is also noticed that in his statements Engineman Ober said he considered the track safe for a speed of about 35 miles an hour for freight trains. Extra 113 was a connection of train No. 31, a second-class fast freight train, and an examination of the train sheet record of train No. 31, and also of train No. 32, an eastbound fast freight train, showed that from July 1 to August 4 these trains exceeded the 35-mile-an-hour speed restriction at some point on the division on 37 occasions, while on 6 occasions they exceeded the speed limit over the entire district, a

distance of 135.9 miles, the average speed in one case being more than 34 miles an hour.

Examination of the track showed that the first mark of derailment was a flange mark on the head of the right rail, beginning near the gauge side and working gradually to the right for a distance of about 15-1/2 feet to where it reached the outside of the head. The next mark was on a tie on the outside of this rail, about 3 feet beyond; this mark extended gradually towards the right to where it left the ends of the ties at a point about 21 feet from where it first appeared on the ties. There was a similar flange mark on the ties on the inside of the left rail. Beyond the point where the wheels left the ties the track was torn up for a distance of about 165 feet. Measurements of the surface, taken at rail joints and centers for a distance of 38 rail-lengths approaching the point of derailment, showed considerable irregularity, with many low joints. The nearest low joint to the point of derailment was the third joint on the north side of the track, this being 3/4 inch lower than the center of the opposite rail. Measurements of the gauge showed it to be maintained in good condition. Further examination of the track showed that there was one place under the right rail, within 10 feet of the first mark on the rail, where the ballast had churned out from under the ends of the ties, leaving three ties swinging about 1/2 inch. Section Foreman Rainwater, however, said he had been over this section of the track at about 11.30 a.m. on the day of the accident, and at

that time it appeared to be in good condition.

Measurement of various parts of the derailed equipment showed a total side-bearing clearance of 7/8 inch on the "A" end head end of the tank car, whereas in the opinion of the general car foreman it should not have exceeded 3/8 inch. This tank car had a capacity of 100,000 pounds, or 8,063 gallons, and was equipped with trucks of the archbar type.

Conclusions.

This accident is believed to have been due to excessive speed, uneven track and excessive side-bearing clearance on the head end of the tank car.

While some of the employees estimated the speed to have been from 20 to 25 miles an hour the statements of other employees, as well as the distance covered by the train and the derailed equipment before coming to a stop, indicate that it was higher than that permitted by the rule and it appears probable that the hauling of the tank car, with its excessive side-bearing clearance, at a high rate of speed over the uneven track caused it to roll to such an extent that a wheel finally mounted the rail and resulted in the derailment of the train.

All of the employees involved were experienced men. At the time of the accident they had been on duty less than 9 hours, after more than 10 hours off duty.