

INVESTIGATION REPORT OF ACCIDENT WHICH OCCURRED  
ON THE NASHVILLE, CHATTANOOGA & ST. LOUIS  
RAILWAY NEAR VININGS, GEORGIA, ON  
APRIL 18, 1918.

June 10, 1918.

On April 18, 1918, there was a derailment of a passenger train on the Nashville, Chattanooga & St. Louis railway near Vining, Georgia, which resulted in the injury of 3 employees and 4 persons carried under contract. After investigation of this accident the Chief of the Bureau of Safety submits the following report:

The part of the Atlanta Division on which this derailment occurred is a single-track line, over which train movements are governed by time-table and train orders, supplemented by a manual block signal system. The time-table requires that passenger trains reduce speed to 40 miles per hour before entering upon and while rounding all curves between Atlanta and Cartersville, in which territory the accident occurred.

Southbound passenger train No. 95, known as the Dixie Flyer, consisted of 2 mail cars, 1 baggage car, 2 coaches, 1 dining car and 4 Pullman sleeping cars, in the order named, was hauled by locomotive 506, and was in charge of Conductor Offutt and Engineman Harris. It left Chattanooga, Tenn., at 10.50 p.m., April 17th, 6 hours 35 minutes late, passed Smyrna, Ga., 121.8 miles south of Chattanooga and 15 miles north of Atlanta, at 2.12 a.m., April 18, 6

hours 42 minutes late, and at 2.21 a.m. it was derailed about 3.35 miles beyond Merz, or 1/2 mile north of Vinings, while running at a speed of about 40 miles an hour.

The locomotive, tender and first mail car turned over on their left sides, the locomotive coming to rest across the passing track, which parallels the main track on the east; the tender came to rest on the east side of the passing track, and the mail car partly down the 75-foot embankment on the east side of the track. The second mail car came to rest bottom upward across the passing track and on the side of the embankment, at an angle of about 45 degrees with the track. The body of the baggage car remained upright, with its front end on the main track and the rear end across the passing track. The first coach remained upright and came to rest across both the main track and the passing track; the second coach also remained upright, with its front end slightly to the right of the main track. The dining car had its front end derailed to the left of the main track but its rear end remained on the track. None of the Pullman sleeping cars was derailed.

Approaching the point of accident from the north the track is tangent for a distance of 1,141 feet, followed by a 5-degree 30-minute curve to the right, 1,567 feet in

length; the accident occurred on this curve, about 250 feet from its northern end. There is a descending grade varying from .17% to 1% for southbound trains. The track is laid with 80-pound rails 25 feet in length, double-spiked to 18 oak ties to the rail; tie plates are used on curves. The ballast consists of stones and cinder, even with the tops of the ties, and has a considerable shoulder. The track is somewhat irregular in surface, but the alignment is good. At the time of the accident the weather was cloudy.

Engineman Harris, of train No. 95, stated that at Marietta, a station 9.3 miles north of Vinings, he received a slow order pertaining to a bad place in the track near Campbell's Crossing, 2 miles north of the point of derailment. He stated that approaching the specified piece of track he placed his throttle in the drifting position, applied the brakes and reduced the speed to about 15 miles an hour; that he did not change the throttle afterward; and that he did not notice any rough spots approaching the point of accident. He said that just prior to the derailment he saw sparks flying from the track and immediately applied the brakes in emergency, and the train continued for about 700 feet before coming to a stop. Engineman Harris said that his train consumed 9 minutes between Smyrna and the point of accident, and that its speed was not more

than 40 miles an hour when derailed. He stated that his locomotive had not been out of the shops long, that the wheels had not caused any trouble, and that it rode better than did most locomotives. Engineman Harris further stated that he considered the superelevation on curves as being insufficient.

Fireman Kemp stated that the locomotive rode well on this trip; that the speed was reduced to 20 or 25 miles an hour at Campbell's Crossing; that he thought the train was drifting when passing through Smyrna; that the engine throttle was not opened afterward, and that the speed was 38 or 40 miles an hour when the derailment occurred. He stated that he did not notice any rough spots in the track just before the derailment occurred; and that when his train reached the curve on which it was derailed he saw sparks flying, and the engine truck left the rails.

Conductor Offutt stated that when the derailment occurred he was in the first Pullman sleeping car, and that he thought the speed was not more than 40 miles an hour at the time.

Flagman Scott stated that after the accident he went back to flag; he did not see anything on the track, and considered it as being in very good condition.

Division Engineer Walker stated that on April 16th, two days prior to the date of accident, he made an inspection in this vicinity, but found no track sufficiently

rough to impress him as being dangerous. He further stated that the maximum superelevation on curves between Cartersville and Atlanta is six inches, and he thought this was sufficient provided the speed limits were observed. He said that it has been impossible to secure all the track repairmen necessary, as industries along the line offer higher wages and a great many of the men have been drafted into military service.

Section Foreman Bramlett, who since March 14th was in charge of the section on which the train was derailed, stated that on the evening before the derailment occurred he walked over the track, paid close attention to it, and considered it as being in good condition. He stated that on the morning of April 17th he found that the superelevation on the curve was mainly six inches, with an increase of about half an inch south of where the train was later derailed. He said that this particular piece of track did not cause more trouble than any other cinder ballasted portion of track, and that he considered it good for a speed of 50 miles an hour. He also said that after the accident he examined the track and found two joints a little low on the inside rail of the curve, just north of where the engine trucks mounted the rail. Section Foreman Bramlett stated that his section consists of six miles of main track and two miles of siding; that there was only

one man beside himself on his gang; that he was unable to get more men because of nearby industries paying better wages; that he has not been able to lay any ties since taking charge, or properly to maintain the track, with his present force; and that he should have eight men all the time.

Trackwalker Jones stated that when going over the track the day before the accident he did not see anything wrong with it where train No. 95 was afterward derailed.

Track Supervisor Jiggs, in charge of the territory between Cartersville and Atlanta, stated that on April 16th he accompanied an inspection party over the track in the vicinity of the accident, that he found the ties fairly good, and that while the track was slightly out of surface and alignment it was not sufficiently so to cause derailment. He stated that there was one joint about 24 feet north of where the engine truck left the rails, which he found to be 5/8 inch low when there was an engine on it, and it displayed evidence of a slight churning; there were also two or three joints just north of the one mentioned which were about 1/4 inch low, but he thought that was not enough to cause any rocking motion of an engine. He said that he did not consider any track in his territory as being unsafe, but that it would become so within the next 90 days unless more help was secured.

Locomotive 506 was of the 4-6-2 type; the tender had a capacity of 13-1/2 tons of coal and 8,000 gallons of water; the total weight of engine and tender ready for service was 305,000 pounds. Investigation disclosed nothing about the equipment that might have caused the train to be derailed.

The first mark of derailment, apparently made by the leading pair of wheels on the engine track, was found 262 feet in on the curve, on a tie-plate outside the high rail of the curve. The ties were slightly marked for a distance of 140 feet, the track then being torn up for a distance of 350 feet. The testimony of the crew of train No. 95 indicated that the speed of that train was only about 40 miles an hour when the derailment occurred; also, the schedule running time of train No. 95 between Smyrna and Vinings is 6 minutes, whereas on this trip 9 minutes were consumed between Smyrna and the point of derailment, which was about half a mile north of Vinings.

An inspection of the section on which the derailment occurred disclosed that the track was not so maintained as to provide the proper degree of safety; at one place four consecutive ties were found to have broken under the rail, and many spikes had been worked loose and drawn by churning of the rails; indications of churning were most common under the inside rail of curves at places where the ballast consisted of cinders on top of stones and the cinders had worked down between the stones and prevented proper drain-

use. On the curve where train No. 95 was derailed, three low joints were found on the inside rail; the depression at these joints was measured with the wrecker standing on them. Two of these, which were the fifth and third, respectively, north of the point of derailment, were 3/4 inch low; the other one, which was the first joint north of where the train was derailed, was 7/8 inch low.

It is obvious, however, that such track conditions can not fail to exist when the track repair gang for this section, which comprises 6 miles of main track and 2 miles of sidings, consists only of a foreman and one man.

While the cause of this accident was not definitely determined, it is believed that when the locomotive of train No. 95 encountered the low joints on the 5-degree 30-minute curve at a speed of 40 miles an hour a rocking motion was set up on the engine, and that when it struck the third low joint it rocked sufficiently to raise the left front wheel of the engine truck over the rail and allow it to drop down on the outside of the curve.

Section foreman Bramlett had had seven years' experience in track repair work, and had been in charge of the section on which the derailment occurred since March 14, 1918. Track Supervisor Riggs had had more than 16 years of experience in track work, he having been employed on other railroads before entering the service of the Nashville, Chattanooga & St. Louis Railway.