Inv-2035

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE

SOUTHERN RAILWAY

LAKE, ILL.

JANUARY 22, 1936

INVESTIGATION NO. 2035

SUMMARY

Railroad:	Southern	
Date:	January 22, 1936	
Location:	Lake, Ill.	
Kind of accident:	Rear-end collision	
Trains involved:	Passenger	: Freight
Train numbers:	No. 23	: No. 61
Engine numbers:	1307	: 645
Consist:	3 cars	: 46 cars, caboose
Speed:	6-25 m.p.h.	: Standing
Track:	Long tangent, followed by 2°30' curve to left 1,358 feet in length; accident occurred near leaving end of curve; ascending grade, maximum 1.62 percent.	
Weather:	Cold; strong wind blowing snow	
Time:	9:15 a.m.	
Casualties:	13 injured	
Cause:	Freight train was run ahead of passenger train on short time without authority or protection, stalled on grade and made back-up movement without providing adequate flag protection.	

March 30, 1936.

To the Commission:

On January 22, 1936, there was a rear-end collision between a passenger train and a freight train on the Southern Railway near Lake, Ill., which resulted in the injury of 10 passengers and 3 employees.

Location and method of operation

This accident occurred on that part of the St. Louis Division extending between St. Louis, Mo., and Princeton, Ind., a distance of 161.6 miles; in the immediate vicinity of the point of accident this is a single-track line over which trains are operated by time table and train orders, no block-signal system being in use. Lake is located approximately 8.28 miles east of St. Louis, or 0.58 mile east of XN Junction, this latter point being the end of double track. The normal position of the junction switch is lined for east-bound movements. The collision occurred about 0.5 mile east of Lake, or about 1.08 miles east of XN Junction switch, at a point 87 feet west of Lake Bridge, trestle No. 8.4, which is 222 feet in length. Approaching the point of collision from the west, beginning at the junction switch, the track is tangent for a distance of 4,466 feet, followed by a 2°30' curve to the left 1,358 feet in length, the collision occurring on this curve at a point 87.4 feet from its leaving end. The grade is undulating to a point about 1,000 feet east of the point of collision, then it is ascending for east-bound trains for more than 1 mile, varying from 0.4 percent to 1.62 percent; the first 500 feet of this portion of track ascends on a grade of 1.62 percent and the next 2,400 feet ascends on a grade of 1 percent.

Under normal conditions an unobstructed view of the point of collision may be had from the fireman's side of an east-bound engine, for a distance of about 3,000 feet. It was cold and hazy and a strong wind was blowing snow at the time of the accident, which occurred about 9:15 a.m.

Description

Train No. 61, an east-bound freight train, consisted of 46 cars and a caboose, hauled by engine 645, and was in charge of Conductor Cadwallader and Engineman Shirkliff. This train left Coapman, 5.8 miles east of St. Louis, at 8:10 a.m., according to the train sheet, 1 hour 40 minutes late, and on reaching XN Junction it waited for an opposing freight train.

Inv. No. 2035
Southern Railway
Lake, Illinois
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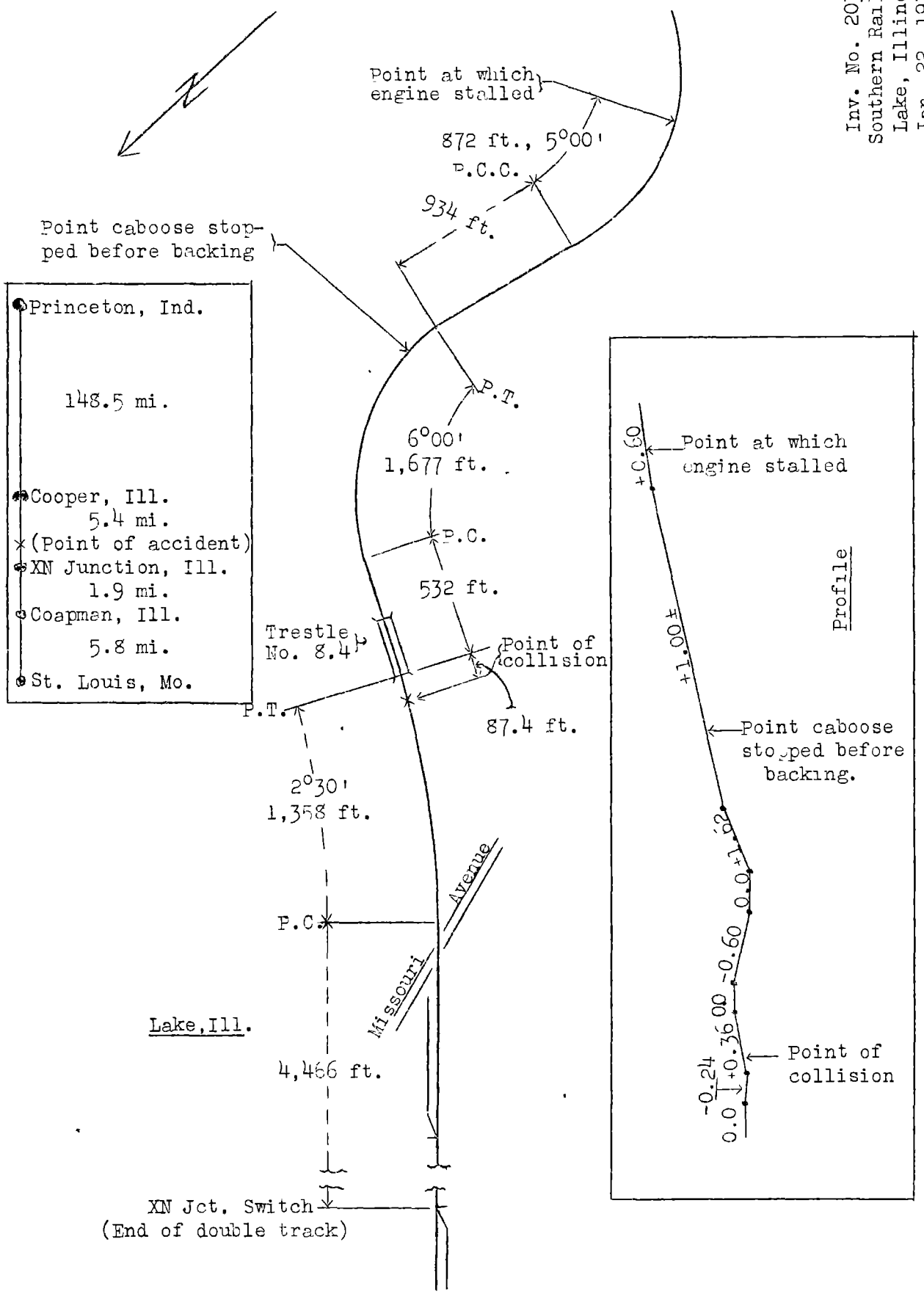

Train No. 61 left XN Junction about 8:52 a.m., and while ascending the grade east thereof the driving wheels slipped causing the engine to stall on the 5° portion of a compound curve to the left, when it had reached a point about 3,100 feet up the grade, at which time the caboose was on a 6° curve to the right and about 1,100 feet up the hill, and the cars in the middle of the train were on tangent track. After making several unsuccessful attempts to start the train the engineman decided to back up until the engine was off the curve, and to then make another attempt to start, which he did, without arranging with the conductor, assuming that the flagman had been left behind at XN Junction to afford protection against the following first-class train. He permitted the train to back down the hill about 2,000 feet, or until the engine had reached a point in the immediate vicinity of where the caboose had originally stood when the engine stalled. This back-up movement placed the caboose at a point about 950 feet west of the bottom of the hill. While endeavoring to start the train forward again, from this point, the caboose was struck by Train No. 23.

Train No. 23, an east-bound passenger train, consisted of 1 combination mail-baggage car, 1 combination baggage-coach, and 1 coach, all of steel construction, hauled by engine 1307, and was in charge of Conductor Meunier and Engineman Yewell. This train left St. Louis at 8:40 a.m., on time, arrived at Coapman at 9:09 a.m., at which point train orders were received, among them being an order for delivery to Train No. 61, when that train was overtaken. Train No. 23 left Coapman at 9:10 a.m., according to the train sheet, 5 minutes late, passed from double to single track at XN Junction, and on reaching a point about 1.08 miles east of XN Junction it collided with Train No. 61 while traveling at a speed variously estimated to have been between 6 and 25 miles per hour.

The caboose and the rear car in Train No. 61 were derailed, while the rear truck of the next car ahead was derailed; two gondola cars in the middle of the train, namely, the nineteenth and twentieth cars from the caboose, were buckled, and two other cars were slightly damaged. Engine 1307 was derailed toward the south, but remained upright. The employees injured were the engineman, fireman and conductor of Train No. 23.

Summary of evidence

Engineman Shirkliff, of Train No. 61, stated that he had been on this run for about 25 years, and had his regular engine and crew on this trip. The weather was cold and a strong

northwest wind was blowing snow about to a blizzard-like extent. His train arrived at XN Junction, the end of double track, at 8:25 a.m., and waited for an opposing train, which cleared the junction switch at 8:50 a.m. He could not see to the rear of his train and he told Fireman Martin that he would whistle off exceptionally loud and then if Conductor Cadwallader did not want him to start, the air brakes would undoubtedly be applied from the rear. Engineman Shirkliff knew that Train No. 23 was due at XN Junction at 9:09 a.m., and that the rules required an inferior train to clear the time of a superior train in the same direction, not less than 5 minutes, and in addition must be clear at the time a first-class train is due to leave the next station in the rear where time is shown. He knew his train did not have time to reach Cooper, 5.4 miles east of XN Junction, ahead of Train No. 23 and clear at that point as required by rule, and he said there was nothing to prevent his train from backing to the west-bound track at XN Junction and clearing Train No. 23 at that point. He felt confident, however, when he departed from XN Junction, about 8:52 a.m., that Flagman McFarland would remain there to protect against Train No. 23, although he had no understanding with Conductor Cadwallader to that effect, and he thought that the passenger train would run expecting to overtake his train at any point between XN Junction and Cooper. The air brakes were tested and worked properly and the engine had sufficient steam; while ascending the grade, however, the wind blew the sand from the rail, causing the driving wheels to slip and the engine stalled on a curve to the left. He made several unsuccessful attempts to start, then decided to let the train drift down the grade, heavily sanding the rail with the back-up sanders, until the engine reached straight track, thinking he could then get the train started as he had done on previous occasions. When the engine stalled Head Brakeman Kinney got off and started back. Engineman Shirkliff was on the outside of the curve and could not see back along the train at that time; he asked Fireman Martin whether he saw anyone and the fireman told him he saw the head brakeman on top of a car a short distance back, giving a back-up signal. After backing some distance, the engineman was in position to see the conductor, who was on top of the train some distance beyond the head brakeman, giving stop signals, and he also saw the flagman, with a lighted fusee, on the ground back of the train, waving stop signals to the passenger train; Engineman Shirkliff immediately stopped his own train, and while he was endeavoring to start ahead the collision occurred. He said that when the engine stalled he did not whistle out a flag, nor did he sound a back-up signal on the engine whistle before commencing the back-up movement,

as he assumed that his flagman had been left behind at XN Junction to protect against the following passenger train.

Fireman Martin, of Train No. 61, gave testimony as to what transpired, similar to that of Engineman Shirkliff; he was busy working on the fire and maintaining steam pressure. He said that the head brakeman got off when the engine stalled, then the back-up movement was started and the train moved about 5 or 10 car lengths when he looked out and saw the head brakeman giving a back-up signal from the top of about the fifth or sixth car; after the engine backed off the curve the brakeman got down from the top of the car on the right side and disappeared from view, following which the fireman started working on the fire. The train backed down the hill a considerable distance and then the air brakes were applied by the engineman and the train stopped, following which the collision occurred. Fireman Martin did not see the stop signals given by the conductor. He was aware that under the rules his own train was required to be into clear at XN Junction at 9:05 a.m., for Train No. 23, this being the time that train was due at Coapman or that his train should be into clear at Cooper at 9:09 a.m., the time the following train was due at XN Junction. He knew that his own train was close on the time of the following train and that when it left XN Junction there was not sufficient time to clear Train No. 23 at Cooper and comply with the rules. It was not the practice to run ahead of first-class trains on short time, such as was done in this case, nor had back-up movements similar to this previously been made without an understanding having first been had with the conductor or flagman, and without receiving a signal from the rear, and proper protection afforded.

Head Brakeman Kinney, of Train No. 61, said that he got off the engine when it stalled on the curve to the left, went back 5 or 6 car lengths and got on top of the cars, from which point he could see the entire train and was also in position to transmit signals. He assumed it was the engineman's intention to move the engine back to straight track and sand the rail while doing so. He noted the train could be moved back some distance without fouling a road crossing to the rear and he gave a signal to back-up slowly to permit of this being done. When the train had moved back 5 or 6 car lengths he saw it was not going to stop before reaching the road crossing and he immediately gave stop signals and at the same time saw the conductor on the ground giving stop signals. The train continued backing up until it had moved about its entire length, then stopped, and had moved forward about two car lengths when the collision occurred. The engineman did not whistle out a

flag or sound a back-up signal before backing the train. Head Brakeman Kinney did not think the flagman had an opportunity properly to protect the rear of his train at the time the back-up movement was started. He said that when his train left XN Junction there was not sufficient time for it to reach Cooper and clear Train No. 23 as required by rule, also that while standing at the end of double track the engine crew talked about pulling ahead and backing into clear on the west-bound main track after the opposing train passed, but when that train passed, his train started ahead and kept going.

Conductor Cadwallader, of Train No. 61, stated that under the rules his train was required to be into clear at XN Junction for Train No. 23 at 9:05 a.m. and when his train left there he knew there was not enough time to reach Cooper and clear at that point at 9:09 a.m. for the following first-class train, as required by rule. In order to avoid considerable delay to his own train, however, he decided to go to Cooper ahead of the passenger train and protect against it, even though it would result in some delay to that train. While ascending the hill he noticed that his train was slowing down considerably and on reaching a point just east of Lake Bridge he had Flagman McFarland drop off to protect, and shortly thereafter the train stalled. Conductor Cadwallader immediately started forward, thinking that the air brakes were sticking. On reaching a point about 11 or 12 car lengths from the caboose the train began to back up and he thought the engineman was going to back down the hill about 3 or 4 car lengths, enough to bunch the slack, and then start ahead. When the engineman did not stop, and the train began to increase speed, the conductor endeavored to apply the brakes by uncoupling an air hose, but was unable to part the hose. He then climbed to the top of a box car and gave stop signals to the head end, and also saw the flagman running back, waving stop signals to the following passenger train. His train finally stopped with the caboose a short distance west of Lake Bridge and while endeavoring to start ahead again the collision occurred. The flagman was back a sufficient distance from the point where it stalled to afford proper rear end protection to the train but could not get back far enough to afford proper protection after the train backed its entire length of about 2,000 feet. Conductor Cadwallader said that if the weather conditions had been less severe, in all probability the engine would not have stalled on the hill and they could have continued to Cooper ahead of the following passenger train without being overtaken; or after his train had stalled, it could have remained there and the engine of the following train could have been used to assist over the grade. He had no understanding with the engineman in regard to

leaving a flag at XN Junction, and did not authorize the back-up movement, nor did he give a back-up signal and said that no fusees were used before the flagman got off the caboose.

Flagman McFarland, of Train No. 61, stated that he suggested to Conductor Cadwallader that he remain at XN Junction and protect against Train No. 23, as there was not sufficient time for their train to go to Cooper ahead of that train, but the conductor said that in order to avoid delay to their train they would go to Cooper ahead of the passenger train and flag it if necessary. He left no fusees at XN Junction or at any point between XN Junction and where he got off to flag; he suggested to the conductor that a fusee be used but the conductor advised him not to do so. When the caboose crossed Lake Bridge, their train was moving about 8 or 10 miles per hour, and the conductor instructed him to get off and flag; he got off at a point about 1½ telegraph pole lengths east of the bridge at 9:05 a.m., according to his watch, at which time Train No. 23 was due to leave Coapman, placed two torpedoes on the rail on the engineman's side, and continued going back. The first he knew that his train was backing up was when the torpedoes he had put down were exploded behind him, at which time he had reached the bridge; he had not looked toward his train after getting off as he did not expect it to make a back-up movement. He ran across the bridge ahead of the caboose, waving stop signals with a lighted fusee, to the approaching passenger train, first on the fireman's side and then on the engineman's side, and had reached a point about halfway between Lake Bridge and the Missouri Avenue road crossing, located about 1,340 feet west of the bridge, when the train passed him. The engineman of that train applied the air brakes in emergency, then the collision occurred; when No. 23 stopped, its rear end was about 1½ times the length of that train beyond him. Flagman McFarland could not understand why the fireman of Train No. 23 did not see his stop signals and said that ample rear-end protection was provided for his own train from the point where it first stopped, but this protection was removed by the unexpected back-up movement of the train.

Engineman Yewell, of Train No. 23, stated that he received an order at Coapman, addressed in his care for delivery to Train No. 61, and the operator told him that the freight train probably would be found at Coapman roundhouse or XN Junction. He looked for it at those points and did not exceed a speed of 30 or 40 miles per hour to XN Junction. After leaving XN Junction the speed of his train was increased and the fireman was busy putting in a fire. Approaching Missouri Avenue road

crossing he sounded the proper whistle signal; he was on the outside of the curve involved and just as his engine passed over the crossing he saw the flagman, with a fusee, cross from the fireman's side to the engineman's side of the track at a point about halfway between Missouri Avenue and Lake Bridge, at which time the speed of his train was about 50 miles per hour. He immediately applied the air brakes in emergency and said that when he closed the throttle he then saw the caboose not more than 100 feet away and that both he and the fireman jumped immediately before the accident; he estimated the speed of his train to have been about 20 or 25 miles per hour when the collision occurred. Engineman Yewell said that he was maintaining a lookout ahead, from his side of the cab, but that the curve was in favor of the fireman's side, and the fireman was busy putting in a fire. The air brakes were tested and worked properly.

Fireman Ashby gave testimony similar to that of Engineman Yewell; the fireman said that he had just finished putting in a heavy fire preparatory to ascending the grade when the engineman applied the air brakes in emergency; he immediately looked out of the front cab window and saw the caboose ahead 10 or 12 car lengths away, then he unfastened the storm curtain on his side and jumped, just prior to the collision. He did not see the flagman before the occurrence of the accident but immediately after the accident he saw him about 3 or 4 passenger car lengths behind the passenger train and running forward toward the scene of the accident.

Conductor Meunier, Baggageman Miller and Flagman Fields, of Train No. 23, were inside their train and were unaware of anything wrong until the air brakes were applied just prior to the accident. Conductor Meunier estimated that the speed was reduced to about 10 miles per hour when the collision occurred, while Flagman Fields estimated it to have been about 6 or 8 miles per hour.

Discussion

Operating rule 86 states that unless otherwise provided, an inferior train must clear the time of a superior train in the same direction, not less than 5 minutes and in addition must be clear at the time a first-class train in the same direction is due to leave the next station in the rear where time is shown, while rule 99 provides that when a train is moving under circumstances in which it may be overtaken by another train, the flagman must take such action as may be

necessary to insure full protection, and by night or by day when the view is obscured, lighted fusees must be thrown off at proper intervals. Conductors and enginemen are responsible for the protection of their train.

The entire crew of Train No. 61 were fully aware they were on short time ahead of Train No. 23 and were undecided whether to clear for that train at XN Junction or proceed to Cooper, although they all knew there was insufficient time to reach Cooper and clear as required by the rules.

Train No. 61 departed from XN Junction ahead of Train No. 23 at 8:52 a.m., and their scheduled running time between XN Junction and Cooper, a distance of 5.4 miles, is 20 minutes. Train No. 23 was due to leave XN Junction at 9:09 a.m., and if Train No. 61 were to clear for them at Cooper, the rules required that it be into clear not later than 9:09 a.m., which allowed the train but 17 minutes in which to make the run and be clear of the main track.

At the time of leaving XN Junction, Engineman Shirkliff was undecided whether to proceed to Cooper ahead of Train No. 23, or back in the clear on the west-bound track at XN Junction; he proceeded, expecting the conductor to apply the air-brakes from the caboose if he wished the train to remain there. As the engineman was unable to see the rear end of his train, and this was not done, he assumed the flagman had remained at XN Junction to protect the movement and that Train No. 23 would run expecting to overtake his train at any point after leaving XN Junction; he therefore continued with the intention of clearing Train No. 23 at Cooper.

When the head brakeman gave the back-up signal just after the train stalled, it was his intention to have the train back up a short distance and stop before fouling a highway crossing; when it appeared the train was not going to stop before fouling this crossing, he gave stop signals but these were not acted upon immediately by the engineman. The fireman had been receiving the signals up to the time the brakeman disappeared from his view and the brakeman should then have been visible to the engineman; however, the engineman failed to observe the stop signals of either the brakeman or the conductor, who also began passing stop signals at about the same time, and the train continued moving back until it had backed a distance equal to its entire length. Just why the engineman failed to see the stop signals given him, and continued backing up an additional distance of 25 or 30 car lengths after they were given, was not explained.

The conductor advised the flagman not to remain at XN Junction and also not to use fusees, when these suggestions were made to him. When the train stalled, the conductor started toward the head end, looking for sticking brakes, and had proceeded but a short distance when the train began moving back; as the speed increased he attempted to stop the train by parting an air hose, but was unsuccessful and then gave stop signals.

The evidence is conclusive that Flagman McFarland was back a sufficient distance to afford protection to his train from the point where the caboose first stopped when the train stalled, but this protection was removed by the unexpected back-up movement of the train. No back-up or other whistle-signals were given before the movement was made and the flagman knew nothing of it until he heard the explosion of the torpedoes he had placed on the rail, at which time the caboose was but a short distance from him and still approaching.

The entire handling of the train, from the time it left XN Junction to the time of the collision, denotes a complete failure of cooperation between members of the crew and an utter disregard of operating rules. The record shows that during the 31-day period prior to this accident, daily train movements over this line averaged between 13 and 14 trains; it is believed the carrier should give serious consideration to the need for the additional protection which would be furnished by installing a block system on this line.

Conclusion

This accident was caused by the operation of an extra train on close time ahead of a following superior train and failure properly to protect a back-up movement.

Respectfully submitted,

W. J. PATTERSON,

Director.