

Inv-2455

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE
SOUTHERN RAILWAY

CORINTH, MISS.

OCTOBER 21, 1940

INVESTIGATION NO. 2455

SUMMARY

Inv-2455

Railroad: Southern

Date: October 21, 1940

Location: Corinth, Miss.

Kind of accident: Rear-end collision

Trains involved: Southern : G. M. & O.
freight freight

Train numbers: Second 56 : 58

Engine numbers: 4514 : 482

Concist: 44 cars, caboose : 47 cars, caboose

Speed: Standing : 6-8 m. p. h.

Operation: Timetable, train orders and
automatic block-signal and
automatic train-stop system;
yard limits

Track: Single; 1°58' compound curve to
left; grade level

Weather: Clear

Time: About 8:28 a. m.

Casualties: 1 killed; 1 injured

Cause: Failure to control speed of
No. 58 properly while moving
within yard limits

November 30, 1940.

To the Commission:

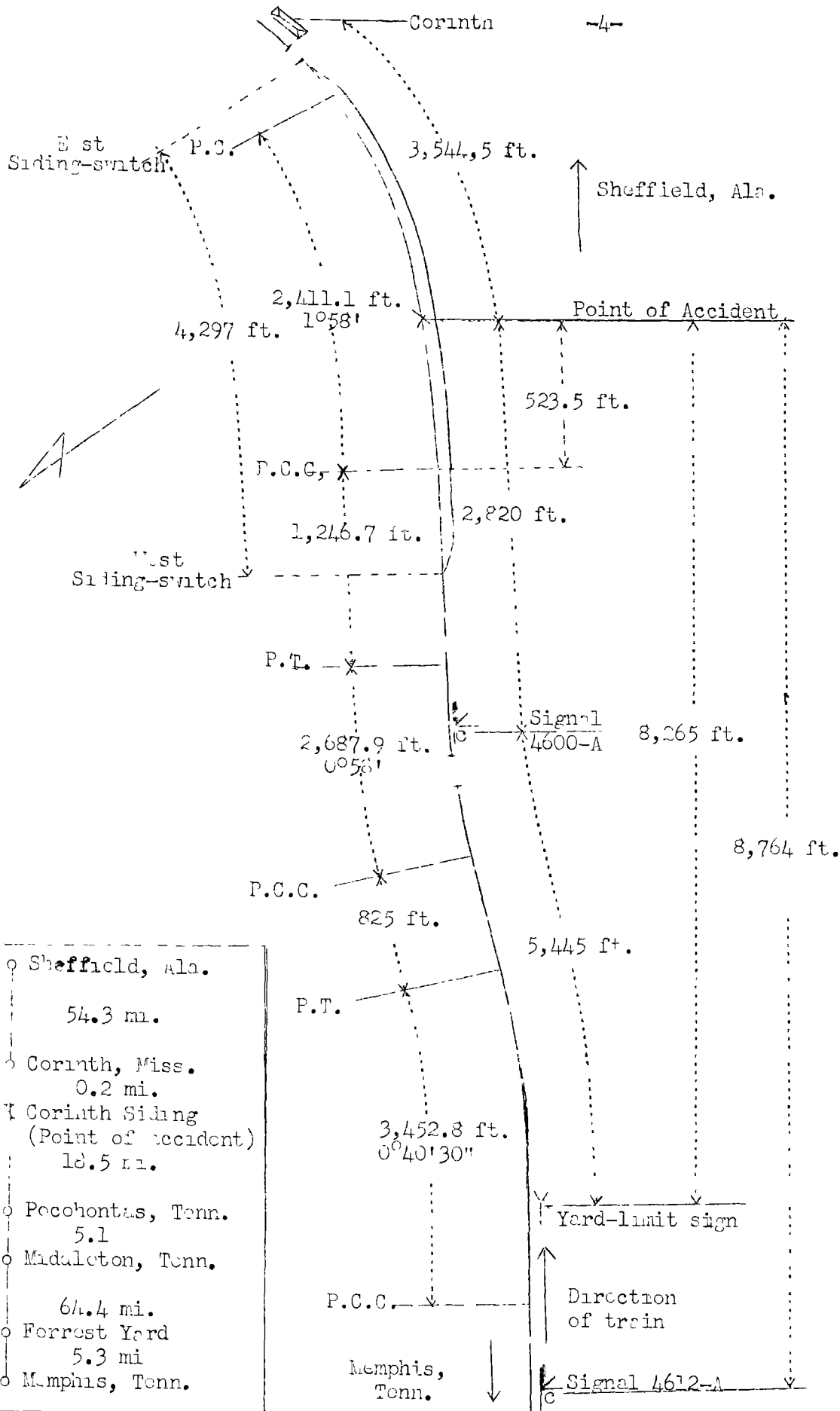
On October 21, 1940, there was a rear-end collision between a Southern Railway freight train and a Gulf, Mobile and Ohio Railroad freight train, on the line of the first-mentioned carrier, at Corinth, Miss., which resulted in the death of one employee and the injury of one employee.

Location and Method of Operation

Trains of the Gulf, Mobile and Ohio Railroad, hereinafter referred to as the G. M. & O., are operated over the Southern Railway, hereinafter referred to as the Southern, between Forrest Yard, Tenn., and Corinth, Miss., a distance of 88.2 miles. This accident occurred on that part of the Memphis Division which extends between Memphis, Tenn., and Sheffield, Ala., a distance of 147.3 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable, train orders and an automatic block-signal and automatic train stop system. The accident occurred within yard limits at a point 3,544.5 feet west of the station at Corinth.

As the point of accident is approached from the west there are, in succession, a compound curve to the left 3,452.8 feet long, the maximum curvature of which is $0^{\circ}40'30''$, a tangent 825 feet long, a compound curve to the right 2,687.9 feet long, the maximum curvature of which is $0^{\circ}58'$, a tangent 1,246.7 feet long, and a compound curve to the left 2,411.1 feet long, the maximum curvature of which is $1^{\circ}58'$; the accident occurred on the last-mentioned curve at a point 527.5 feet from its western end. The grade for east-bound trains is, successively, 0.91 percent descending 4,400 feet, 0.266 percent descending 4,700 feet, and level 355.5 feet to the point of accident and 1,444.5 feet beyond.

A yard-limit sign is located 8,265 feet west of the point of accident. The east switch of Corinth Siding is located 0.2 mile west of Corinth station; the siding is 4,297 feet long and parallels the main track on the south. The accident occurred on the main track at a point 1,316 feet east of the west switch of the siding. Automatic signals 4612-A and 4600-A, which govern eastward movements on the main line, are 3-indication, color-light signals, continuously lighted, and are located 8,764 feet and 2,320 feet, respectively, west of the point of accident. The aspects, indications, and names of these signals are as follows:



- o Sheffield, Ala.
- 54.3 mi.
- o Corinth, Miss.
- 0.2 mi.
- o Corinth Siding (Point of Accident)
- 18.5 mi.
- o Pechontas, Tenn.
- 5.1
- o Madalton, Tenn.
- 64.4 mi.
- o Forrest Yard
- 5.3 mi
- o Memphis, Tenn.

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Aspect	Indication	Name
Green	Proceed	Clear-Signal
Yellow	Approach next Signal prepared to Stop	Approach-Signal
Red	Stop; then Proceed	Stop and Proceed Signal

The automatic train-stop system is of the intermittent inductive type. Engines are provided with acknowledging devices.

The following rules of the operating department read in whole or in part as follows:

93. Within yard limits the main track may be used without protecting against second and inferior class trains. Second and inferior class and extra trains or engines must move within yard limits prepared to stop unless the main track is seen or known to be clear. When the view is obstructed additional precautions must be taken. In case of accident the responsibility will rest with the approaching train.

Note.- Yard limits are indicated by sign boards reading "YARD LIMIT," and the locations are also shown for each division in the current time table.

509. * * *

When a train is stopped by a Stop and Proceed-signal it may proceed at once at slow speed expecting to find a train in the block, broken rail, obstruction or switch not properly set.

1293. ENGINEMEN

* * * They are solely responsible for the observance of and compliance with the indications given by fixed signals, flagmen's signals or other signals affecting head end forward train movement; * * *

1370. FIREMEN

They must keep a lookout for signals, obstructions or defects of track or of their trains, * * * and call them to the attention of the engineman.

A bulletin issued by the superintendent on August 5, 1940, reads as follows:

BULLETIN NO. 49

ALL CONCERNED:

This is to call your attention to the importance of complying with Rule 93. (The yard limit Rule).

This is a very important rule in the safety operation of trains through yard limits and must be complied with.

The maximum authorized speed for trains in this territory is 30 miles per hour.

The weather was clear at the time of the accident, which occurred about 8:28 a. m.

Description

Second 56, an east-bound Southern second-class freight train, with Conductor Pittman and Engineman Nichols in charge, consisted of engine 4514, 44 loaded cars and a caboose. At Forrest Yard the crew received a message reading:

Do not fill turn Corinth.

This train departed from Forrest Yard at 3:40 a. m., according to the train sheet, 3 hours 10 minutes late, and passed Middleton, 23.8 miles west of Corinth and the last open night office, at 7:34 a. m., 4 hours 25 minutes late. At Corinth Siding the caboose was detached and under its own momentum was permitted to move eastward on the main track; it stopped 1,616 feet east of the west switch. The remainder of the train entered the siding and stopped about 8:20 a. m.; the engine was detached and it moved through the east siding-switch to the main track. Then the engine made a back-up movement and had just stopped a few feet east of its caboose when No. 58 struck the caboose, and the force of impact drove the caboose against engine 4514.

No. 58, an east-bound G. M. & O. second-class freight train, with Conductor Archer and Engineman Peters in charge, consisted of G. M. & O. engine 482, 45 loaded and 2 empty cars and a caboose. This train departed from Forrest Yard at 3:55 a. m., according to the train sheet, 2 hours 40 minutes late, passed Pocahontas, 18.7 miles west of Corinth and the last open day office, at 8:03 a. m., 3 hours 58 minutes late, passed the yard-limit sign at Corinth, stopped at signal 4600-A, which was displaying a stop-and-proceed indication, then proceeded, and, while moving at a speed variously estimated at 6 to 8 miles per hour, struck the caboose of Second 56.

The caboose of Second 56 was derailed and considerably damaged; it leaned to the right against a car on the siding. The east coupler of the caboose entered the cistern of engine 4514. The cistern of engine 4514 was torn from the tender frame and the left side of the engine cab was crushed. Engine 482 stopped about 122 feet east of the point of collision; the front end was badly damaged.

The employee killed was the engineman of Second 56, and the employee injured was the fireman of Second 56.

Summary of Evidence

Conductor Pittman, of Second 56, stated that at Forrest Yard the air brakes were tested and they functioned properly en route. At several points en route to Corinth No. 58 overtook his train. Because of instructions to set off all cars of his train at Corinth his engine entered Corinth Siding at the west siding-switch. During this movement the caboose was detached and it proceeded eastward on the main track. The caboose stopped about 1/2 mile east of the west siding-switch and was standing at that point 5 minutes before the accident occurred. The conductor said that he was on the east platform of the caboose when he observed No. 58 stop at signal 4600-A and then proceed. The weather was clear and No. 58 could be seen distinctly all the time as it approached. When No. 58 was about 800 feet distant he observed two members of the crew of that train looking out the cab window on the left side of the engine. He did not realize that No. 58 would not stop until that train was about 200 feet distant and moving about 7 or 8 miles per hour. During this time engine 4514 moved westward on the main track and stopped about 8 feet east of the caboose. No. 58 collided with the caboose, which, being pushed eastward, collided with the tender of engine 4514. The conductor understood that, according to the yard-limit rule, second-class and inferior trains must move within yard limits prepared to stop, and that his train was not required to furnish flag protection against No. 58. He said

that when trains were yarded at Corinth Siding the procedure which was followed on this occasion was customary practice.

Flagman Malone, of Second 56, stated that when his train was entering Corinth Siding he detached the caboose and lined the west siding-switch for the caboose to move eastward on the main track. When his engine was making a back-up movement he was standing near the east end of the caboose to couple the engine to it. At that time he observed No. 58 moving toward his caboose and realizing that it was not going to stop he gave his engineman a hand stop-signal and also waved stop signals to the engine crew of No. 58; the accident occurred immediately afterward. He stated that just prior to the collision No. 58 was moving at a speed of 6 or 8 miles per hour. The brakes of No. 58 were applied in emergency at the time of the collision. The view to the rear of his caboose was unobstructed and the weather was clear. He said that under Rule 93 he was not required to furnish flag protection against second-class or inferior trains.

Fireman Ashley, of Second 56, stated that after the cars of his train were placed on Corinth Siding the engine moved through the east siding-switch to the main track, then a back-up movement was made toward the caboose. As his engine was moving toward the caboose, he heard the engine whistle of No. 58 sounded for a road crossing to the rear of his caboose. He had an unobstructed view to the rear and seeing No. 58 approaching he warned his engineman, who replied, "They will stop." The fireman said that his engine stopped about 10 feet east of the caboose. When No. 58 was about 20 car lengths to the rear of the caboose it was moving at a speed of about 10 miles per hour, and when it was about 10 car lengths west of the caboose the fireman warned the engineman and jumped from the engine. The caboose was struck immediately afterward, when the speed of No. 58 was about 8 miles per hour. He said that the caboose could have been seen from the left side of an east-bound engine a distance of 40 car lengths; however, the engineman's view was restricted by track curvature. He understood that second-class, inferior-class and extra trains must move within yard limits prepared to stop unless the main track is seen or known to be clear.

The statement of Brakeman Pipkins, of Second 56, added nothing of importance.

Engineman Peters, of No. 58, stated that the air brakes were tested at Forrest Yard and they functioned properly en route. As his train approached Corinth Siding, signal 4600-A was displaying a stop-and-proceed indication; he made a 25 or

30-pound brake-pipe reduction, which stopped the train at that signal. After releasing the brakes he waited 2 or 3 minutes to restore the brake-pipe pressure fully. The train proceeded into the block at a speed of 8 miles per hour. As his train approached the point where the accident occurred he made a brake-pipe reduction of 10 pounds and sounded the whistle signal for a road crossing. He was in his usual position maintaining a look-out ahead but because of track curvature his view was restricted. The front brakeman, who was not in the habit of calling warnings concerning conditions ahead, was on the left seatbox looking ahead and did not call a warning in this instance. The fireman, having dug down some coal, returned to the left seatbox, looked ahead and gave a hand signal to reduce speed and the engineman made another brake-pipe reduction; at this time the speed of his train was 7 or 8 miles per hour. Then he saw someone on the ground waving stop signals and he applied the air brakes in emergency, but too late to avert the collision. Because of severe slack closure from the rear, his engine, moving at a speed of 5 or 7 miles per hour, struck the caboose. He stated that he was operating his train at such speed that he could have stopped for a switch not properly set. At several points en route he had stopped his train to the rear of Second 56. Although he thought Second 56 was in the vicinity of Corinth Siding, he did not see it until his engine was about 3 or 4 car lengths west of the caboose. He stated that at several points between the yard-limit sign and the point where the accident occurred he could have seen the caboose of Second 56. He understood that Rule 93 required him to proceed prepared to stop short of an obstruction; however, since his view was restricted by track curvature, he depended upon the fireman and the front brakeman to inform him of conditions immediately in advance of his engine affecting the safe passage of his train. He thought the emergency application of the air brakes was not effective because of brake-pipe reductions made previously. He said that steam escaping from the pipe to the water pump indicator obscured the view ahead on the left side of the cab to some extent; however, if either the fireman or the front brakeman leaned out the side cab-window his view ahead was unobscured.

Fireman Kirk, of No. 58, stated that he understood that second-class, inferior-class and extra trains must move within yard limits prepared to stop unless the main track is seen or known to be clear. Since signal 4600-A displayed stop-and-proceed for his train he was aware that his train was required to be operated at slow speed because of the possibility of finding a train in the block, a broken rail or a switch not properly lined. He left his seatbox for a short period to dig down some coal; when he returned to his seatbox he observed an engine on

the main track moving toward their train, and called a warning to his engineman. At that time he observed a caboose standing on the main track between his train and the other engine, and again he warned the engineman, who applied the brakes in emergency. His train was practically stopped when the collision occurred but sudden slack closure in his train increased the force of impact. He said that had he maintained a constant lookout ahead he could have seen the caboose earlier than he did. He did not hear the front brakeman warn the engineman. The fireman was last examined on operating rules in January, 1940.

Front Brakeman Watkins, of No. 58, stated that he was on the left seatbox maintaining a lookout ahead. He understood that it was his duty to warn the engineman of track conditions in advance of their train. He first observed the caboose involved when his engine was about 15 car lengths west of it and called a warning to the engineman; however, he was leaning out the side cab-window and he did not turn toward the engineman; consequently, he thought possibly the engineman did not hear him. He said that enginemen are responsible for the operation of their train and he felt reluctant to give warnings to them. He stated that he was last examined on operating rules on January 23, 1940.

Conductor Archer, of No. 58, stated that he was in the caboose as his train approached the point where the accident occurred and that the speed was 7 or 8 miles per hour. He felt the brakes being applied in emergency, and then the train stopped in a distance of 5 or 6 car lengths. The weather was clear at the time of the accident, which occurred about 8:28 a. m.

The statement of Flagman McKinney, of No. 58, added nothing of importance.

Master Mechanic Stewart stated that subsequent to the accident he tested the brakes on No. 58 and no defective condition was found that might have contributed to the cause of the accident.

Trainmaster Bryan stated that all train and engine-service employees are required to attend Book of Rules examinations once each year. Efficiency tests are conducted monthly.

Observations of the Commission's Inspectors

The Commission's inspectors observed that a caboose standing at the point of accident could be seen from the right side of an east-bound engine between points 2,475 feet and 350 feet west of it; then the view was restricted a distance of 100 feet,

but unrestricted the remainder of the distance. The view from the left side of an east-bound engine was unrestricted throughout a distance of 2,343 feet immediately west of the caboose.

Discussion

According to the evidence, when Second 56 entered the west siding-switch at Corinth Siding the caboose was detached, and under its own momentum it proceeded eastward on the main track. The engine, after being detached, entered the main track at the east siding-switch, backed westward, and had just stopped within a few feet of the caboose when the caboose was struck by No. 58; then the caboose struck the tender of engine 4514.

The accident occurred within yard limits at a point 8,265 feet east of the west yard-limit sign. The air brakes on No. 58 had been functioning properly and there was no mechanical defect disclosed that had any bearing on the cause of the accident. An automatic block-signal, located 2,820 feet west of the point where the accident occurred, displayed a stop-and-proceed indication for No. 58. Both trains involved were second class. All members of the crew of No. 58 understood that second-class, inferior-class and extra trains must move within yard limits prepared to stop unless the main track is seen or known to be clear; also, that under the rules a train could occupy the main track without protecting against any but first-class trains. In addition, the crew of No. 58 understood that the red aspect displayed by signal 4600-A required their train to proceed at slow speed, because of the possibility of finding a train in the block, a broken rail or a switch not properly lined. The weather was clear and it was possible for the engineman of No. 58 to see the caboose involved throughout a distance of 2,475 feet, except between points 350 and 250 feet west of it. Nevertheless, the engineman said that he did not see the caboose involved until his engine was 3 or 4 car lengths west of it. From the left side of the engine of No. 58 the caboose could be seen throughout a distance of 2,343 feet. The evidence indicates that the fireman was the first to observe that the main track was occupied and called a warning to the engineman, who applied the brakes in emergency but too late to avert the accident. The engineman's view was restricted by track curvature and he depended upon the fireman and the front brakeman to inform him of conditions which affected the safe passage of his train. The fireman was digging down coal prior to the time he first observed the caboose, and the front brakeman stated that at a point 15 car lengths west of the caboose he warned the engineman but he was not heard because the brakeman was leaning out the side window when he gave the warning. If the brakeman had directed his warning to the engineman properly, it is probable the accident

would have been prevented. No. 58 was moving at a speed of 7 or 8 miles per hour, and had any one of the three members of the crew on the engine been alert this accident would not have occurred. The employees involved had received instructions on operating rules frequently and, in addition, 2-1/2 months before this accident occurred the superintendent issued a bulletin calling attention to the importance of compliance with the provisions of the yard-limit rule.

Conclusion

This accident was caused by failure to control the speed of No. 58 properly while moving within yard limits.

Respectfully submitted,

S. N. MILLS,

Director.