

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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REPORT OF THE DIRECTOR  
BUREAU OF SAFETY

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ACCIDENT ON THE  
ATLANTIC COAST LINE RAILROAD

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WILMINGTON, N. C.

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OCTOBER 21, 1939

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INVESTIGATION NO. 2388

SUMMARY

Inv-2388

Railroad: Atlantic Coast Line  
Date: October 21, 1939  
Location: Wilmington, N. C.  
Kind of accident: Head-end collision  
Trains involved: Passenger : Freight  
Train numbers: 41 : Extra 1034  
Engine numbers: 154A : 1054  
Consist: 2 cars : Caboose  
Estimated speed: 8-20 m. p. h. : Almost stopped -  
20 m. p. h.  
Operation: Timetable and train orders  
Track: Single; 5° curve; ascending grade for both  
trains  
Weather: Clear  
Time: 8:06 a. m.  
Casualties: 49 injured  
Cause: Failure of extra to clear time of opposing  
first-class train

December 28, 1939.

To the Commission:

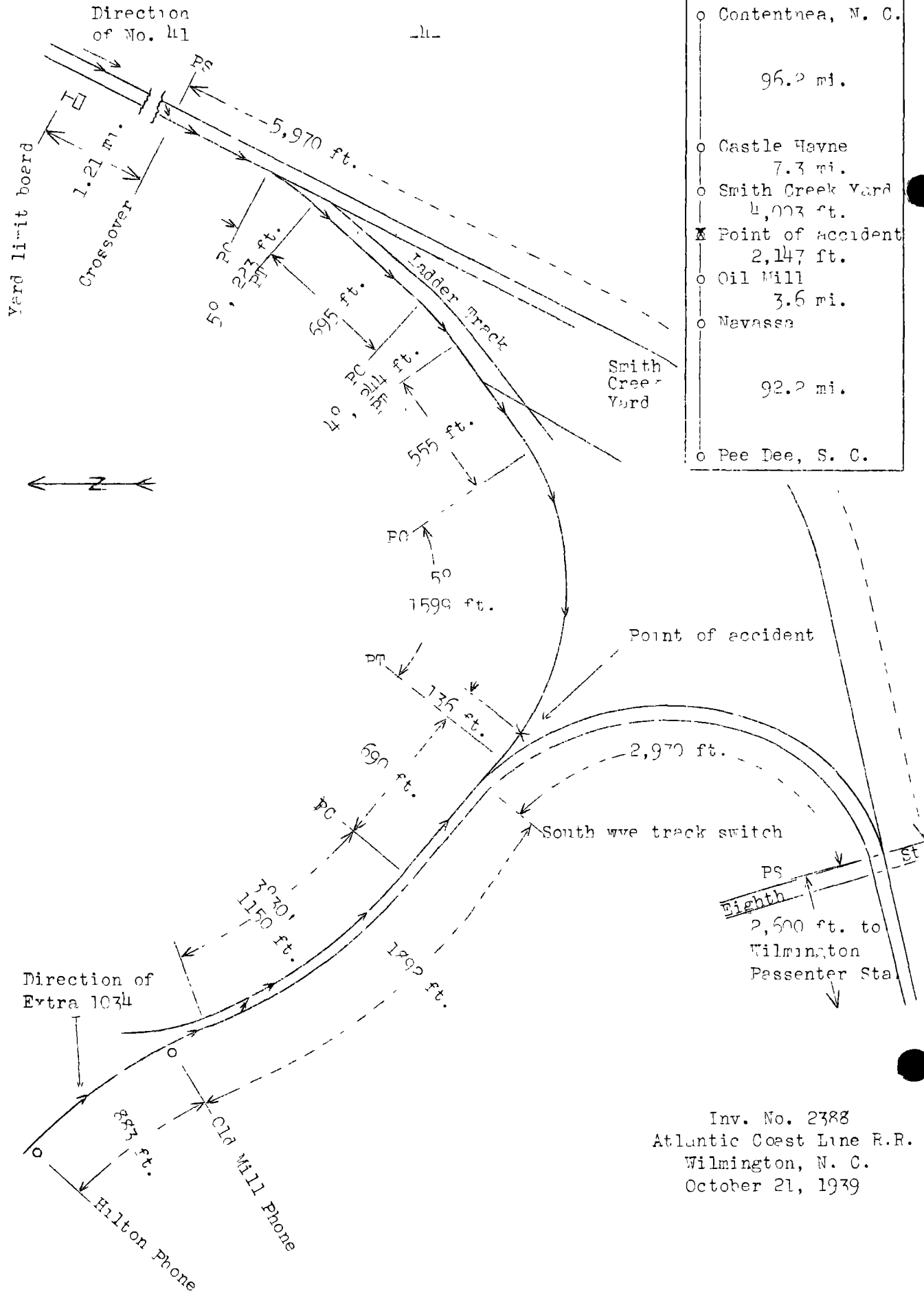
On October 21, 1939, there was a head-end collision between a passenger train and a freight train on the Atlantic Coast Line Railroad at Wilmington, N. C., which resulted in the injury of 41 passengers, 2 Pullman employees, 1 dining-car employee, 2 employees off duty, and 3 train-service employees.

#### Location and Method of Operation

This accident occurred on that part of the Wilmington District which extends between Contentnea, N. C., and Pee Dee, S. C., a distance of 201.6 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders, no block system being in use, except that the track from Navassa northward to Hilton, 4.8 miles and 1.7 miles, respectively, south of Wilmington, is designated by special instructions in the timetable as an absolute block; trains use this block on oral authority obtained by a member of the crew from the dispatcher; north-bound trains may surrender this block authority either at Hilton, Oil Mill, Smith Creek Yard or Wilmington passenger station.

The main track entering Wilmington from the north extends from northeast to southwest; the main track from the south extends from northwest to southeast and converges with the north main track at Eighth Street, 2,600 feet north of the station. A wye track, which extends generally north and south and is 3,535 feet in length, connects these main tracks at points on the north and south tracks, respectively, 5,970 feet and 2,970 feet from the junction at Eighth Street. The accident occurred on this wye track at a point 254.8 feet from its south end. Smith Creek Yard lies in the angle formed by the main track from the north and the wye track. A ladder track leading to the yard tracks branches off from the extreme north end of the wye track. Yard limits extend from a point approximately 2 miles north to a point 5 miles south of the point of accident.

Approaching the point of accident from the north, there is a tangent for a considerable distance, which is followed in succession by a 5° curve to the right 223 feet long, a tangent 695 feet long, a 4° curve to the right 244 feet long, a tangent 555 feet long, and a 5° curve to the right 1,599 feet long; the accident occurred at a point 136 feet from the south end of the last-mentioned curve. Approaching from the south there are, in succession, a 3°30' curve to the left 1,150 feet long, a tangent 690 feet long, and the 5° curve to the left on which the accident occurred. Approaching from the north the grade is 0.19 percent ascending for more than 4,000 feet. Approaching from the south the grade is 0.28 percent to 0.43 percent ascending for more than 3,000 feet; the accident occurred at the apex of the



o	Contentnea, N. C.	96.2 mi.
o	Castle Hayne	7.3 mi.
o	Smith Creeper Yard	4,003 ft.
X	Point of accident	2,147 ft.
o	Oil Mill	3.6 mi.
o	Navassa	
		92.2 mi.
o	Pee Dee, S. C.	

Inv. No. 2388  
 Atlantic Coast Line R.R.  
 Wilmington, N. C.  
 October 21, 1939

hill. The view across the inside of the curve on which the accident occurred, from the cab of a south-bound engine, is restricted to approximately 800 feet throughout the first half of the curve and to about 450 feet throughout the remaining distance to the point of accident. From the cab of a north-bound engine approaching and entering this curve, the view is restricted to about 450 feet throughout a distance of about 800 feet.

South-bound passenger trains move forward over the wye track and back over the south track into the passenger station; north-bound freight trains move forward over the wye track and back into Smith Creek Yard.

A telephone is located in a booth at Hilton, 2,775 feet south of the south wye-track switch. Another telephone booth, in which the dispatcher's telephone is available, is located at Oil Mill, 1,892 feet south of the wye-track switch; this telephone is used by members of crews of north-bound freight trains moving over the wye track en route to Smith Creek Yard to obtain from the dispatcher a register check or any information necessary under the rules for movement over this track.

A bulletin addressed to conductors and signed by the superintendent under date of September 30, 1935, reads as follows:

We have had some delays in handling the Hilton-Navassa block.

In future, when getting permission to use the block or giving up the block, the conductor will give his name and train number, in order that we may know who is asking for the block.

Rules 4(a), 87, 93, 106, 201, 725, and 740 of the book of operating rules provide as follows:

4(a). Special instructions in a time-table supersede any rule or regulation of the book of rules with which they may conflict. Bulletin or other special instructions supersede special instructions of the time-table or any rule or regulation of the book of rules with which they may conflict.

87. An inferior train must keep out of the way of opposing superior trains and failing to clear the main track by the time required by rule must be protected as prescribed by Rule 99.

Extra trains must clear the time of opposing regular trains not less than five minutes unless otherwise provided, and will be governed by train orders with respect to opposing extra trains.

93. Within yard limits the main track may be used, clearing the time of first-class trains five minutes.

Second, third and fourth class and extra trains must move within yard limits prepared to stop unless the main track is seen or known to be clear.

106. Both the conductor and the engineman are responsible for the safety of the train and the observance of the rules, and, under conditions not provided for by the rules, must take every precaution for protection.

201. For movements not provided for by time-table, train orders will be issued by authority and over the signature of the Superintendent Transportation. \* \* \*

725. \* \* \* At designated points, other than initial or terminal stations, Conductors must register the time of the arrival of their trains, and the kind of signals carried, and will personally check the train register; if all trains of the same or superior class have arrived or departed, and the train is permitted to proceed under the rules, the Conductor will personally notify the Engineman.

740. Messages or orders respecting the movement of trains or the condition of track or bridges must be in writing.

A bulletin issued by the superintendent June 24, 1939, reads in part as follows:

"Some of our freight crews are not complying with special instructions in the current time table in connection with checking arrival of \* \* \* south-bound passenger trains before using wye, and \* \* \* freight main line.

No freight train or yard engine should use these tracks without conferring with the train dispatcher and getting information as to whether all \* \* \* south-bound passenger trains have arrived.

Regardless of the hours these tracks are used, this information must be gotten as there may be times when the \* \* \* southbound passenger trains are running late."

The maximum authorized speed for first-class trains using the wye track is 60 miles per hour.

The weather was clear at the time of the accident, which occurred at 8:06 a. m.

### Description

No. 41, a south-bound passenger train, consisted of two express cars, one combination mail-baggage car, two coaches, one diner, and two Pullman sleeping cars, of all-steel construction, in the order named, hauled by engine 1548, and was in charge of Conductor West and Engineman Belknap. This train departed from Castle Hayne, the last open office, approximately 7.7 miles north of the point of accident, at 7:58 a. m., according to the train sheet, 10 minutes late, and while moving at a speed estimated to have been from 8 to 20 miles per hour collided with Extra 1034 North on the wye track at Wilmington.

Extra 1034 North consisted of a caboose hauled by engine 1034, and was in charge of Conductor Woodward and Engineman Gentry. The crew of this train received oral authority at Navassa, approximately 3.4 miles south of the point of accident, to use the block from Navassa to Hilton. This train departed from Navassa at 7:57 a. m., according to the train sheet, departed from Oil Mill about 8:04 a. m., entered the wye track, and while moving at a speed variously estimated to have been from almost a standstill to 20 miles per hour collided with No. 41.

Both engines remained upright and on the rails. The force of the impact drove Extra 1034 backward a distance of about 30 feet. The engine truck, pilot and pilot casting of engine 1548, and the pilot casting, sill and truck of engine 1034 were badly damaged. The employees injured were the engineman and the conductor of Extra 1034 and the fireman of No. 41.

### Summary of Evidence

Engineman Belknap, of No. 41, stated that his train left Castle Hayne at 7:57 a. m. and passed Smith Creek Yard cross-over at 8:05 a. m. When approaching the south wye-track switch at Wilmington the speed of his train was about 20 miles per hour. He saw Extra 1034 approaching about 600 feet distant and he thought that it was moving on an adjacent yard track, but almost immediately he saw that it was approaching on the wye track; he shouted a warning to his fireman and made an emergency application of the brakes. The collision occurred almost immediately thereafter. The brakes functioned properly en route and an emergency application was obtained at the time of the accident. He estimated that the speed of his train at the time of the impact was 8 or 10 miles per hour and the time of the accident was 8:06 or 8:07 a. m.

Fireman Toney, of No. 41, corroborated the testimony of his engineman. He stated that the weather was clear at the time of accident.

Conductor West, of No. 41, stated that he was seated in the rear car when the emergency application occurred, at which time the speed was about 20 miles per hour, and he thought that the speed at the time of the collision, which occurred at 8:06 a. m., was about 15 miles per hour. The weather was clear at the time of accident.

Flagman Humphrey, of No. 41, corroborated the testimony of his conductor.

Baggagemaster Mathis, of No. 41, stated that his train approached the south end of the wye track at a speed of about 20 miles per hour. He opened the baggage car door, preparatory to getting off to throw the switch for the back-up movement into the station, and, looking ahead, he saw Extra 1034 approaching about five car lengths distant; there was an emergency application of the brakes and immediately thereafter the accident occurred. He stated that it has been the practice for about 15 years that the brakeman secures from the dispatcher over the telephones at Oil Mill, Hilton, or Navassa a register check of over-due trains.

Engineman Gentry, of Extra 1034, stated that he compared time with his conductor on the night before the accident occurred and found that his watch was 40 seconds slow. When his train arrived at Navassa the brakeman obtained authority to use the block and informed him that the dispatcher had said that No. 41 was on time. At Oil Mill the brakeman surrendered the block authority at 8:02 a. m., and reported to him that the dispatcher had said that No. 41 had left Castle Hayne at 7:58 a. m. and that they had plenty of time to go to Smith Creek Yard. He stated that after leaving Oil Mill he instructed his fireman to keep a lookout for No. 41 and, while passing over the switch leading into the wye track at a speed of about 10 miles per hour, the fireman called a warning, whereupon he applied the brakes in emergency and placed the reverse lever in back-up position. He thought that his train was stopped at the time of collision. He stated that it has been the practice for the last 8 or 10 years that the brakeman obtains and surrenders block authority and obtains register checks from the dispatcher. At various times operating officials had been on his train when the brakeman obtained register checks, or received or released block authority, but he had never heard this practice criticized by the officials. He stated that frequently he had thought that this method of operation might result in an accident.

Fireman Flowers, of Extra 1034, stated that he heard the brakeman tell his engineman at Navassa that they had obtained permission to occupy the block and that No. 41 was on time. After arriving at Oil Mill where the block authority was surrendered, he heard the brakeman state that the dispatcher had informed him that No. 41 had left Castle Hayne at 7:58 a. m., and that they had plenty of time to go to Smith Creek Yard for that



train. When leaving Oil Mill, his engineman instructed him to keep a lookout across the inside of the curve on which the accident later occurred, and while moving at a speed he estimated to have been 10 or 12 miles per hour, he saw No. 41 about 800 feet distant and he called a warning to his engineman who applied the brakes in emergency and reversed the engine. He said that he got off the engine before the collision occurred and thought that his train was almost stopped at the time of the impact. He stated that during the 10 years he had worked on this district, it had been the custom for the brakeman to obtain and surrender oral authority to use the block and secure register checks on over-due first-class schedules in effect on the wye track. He said that the weather was clear at the time of the accident.

Conductor Woodward, of Extra 1034, stated that for several years it had been the custom to permit the brakeman to obtain block authority and to get register checks at Navassa, Hilton, or Oil Mill on over-due first-class trains. This information is obtained orally from the dispatcher on telephones at those points. On the day of the accident, the brakeman performed this service at Navassa and Oil Mill and surrendered the block authority at Oil Mill between 8:02 a. m. and 8:03 a. m. He overheard the brakeman conversing on the telephone at Oil Mill and heard him say to the dispatcher that No. 41 had left Castle Hayne at 7:58 a. m., which was 10 minutes late, and they would have time to make Smith Creek Yard for that train, after which the brakeman replied, "O. K.," turned from the telephone, and repeated this information to his engineman and conductor. The conductor said that under the rules they did not have sufficient time to go from Oil Mill to Smith Creek Yard, and to clear No. 41's schedule time by 5 minutes, even though No. 41 was 10 minutes late. He said that the movement between these two points was made because he thought that the dispatcher had authorized the movement orally and in accordance with the practice which had prevailed for about 7 years. He stated that if he had been given a train order authorizing No. 41 to run 10 minutes late, he would not have attempted to go from Oil Mill to Smith Creek Yard against No. 41, unless he had been advised by the dispatcher to do so. He stated further that for years he had observed many instances, on trains with cars, of which he was conductor, in which brakemen would obtain block or register-check information at Navassa, Hilton, or Oil Mill from the dispatcher and give the engineman a hand signal instead of repeating the information orally to him. He added that he did not deem this a safe practice despite the fact that it had existed for years.

Brakeman Gaylor, of Extra 1034, stated that since the operators were dispensed with at Hilton and Navassa several years ago it has been the custom for the brakeman to obtain authority from the dispatcher to enter the Navassa-Hilton block and secure register checks at Navassa, Hilton, or Oil Mill on over-due first-class trains. He stated that on the day of the accident he ob-

tained the authority at Navassa to use the block and that he released it on arrival at Oil Mill telephone booth, and was told by the dispatcher that No. 41 had left Castle Hayne at 7:58 a. m., but that they could make Smith Creek Yard with ease. He repeated this information to the conductor who in turn repeated it to the engineman. They departed immediately and the accident occurred a moment later. He said that there had been a number of previous occasions when the dispatcher had advanced inferior trains around the wye track against over-due first-class trains on telephone information which was not in the form of a train order.

Conductors Hatch and Russell, and Enginemen Murray and Grimmer, each having more than 20 years of service on the district involved, stated that for a period of from 5 to 10 years, it has been the general practice for brakemen of north-bound freight trains to secure information at Navassa, Hilton, or Oil Mill from the dispatcher over the telephone in regard to the use of the Navassa-Hilton block and the movement of first-class south-bound trains. Conductor Hatch and Engineman Murray stated that if they were informed by the dispatcher on arrival at Oil Mill that a first-class south-bound train had left Castle Hayne, they would not leave Oil Mill even though the dispatcher authorized the movement orally. Conductor Russell stated that in such a case, on arrival at Oil Mill, he would confer personally with the dispatcher.

Dispatcher Hudson, who went on duty at Wilmington at 8 a. m., October 21, stated that he gave Extra 1034 at Navassa authority to use the block to Hilton at 7:56 a. m., at which time he was engaged in taking the transfer from the third-trick dispatcher. He informed them that No. 41 was on time. The block was surrendered by Extra 1034 at Oil Mill at 8:04 a. m., at which time he informed the person calling that No. 41 had left Castle Hayne at 7:58 a. m., and that Extra 1034 could not make Smith Creek Yard. He stated that he received as a response the words, "Oh yeah." The telephone transmission at that time was very clear and distinct. He said he felt confident that he was understood by the man calling from Oil Mill, because of the expression "Oh yeah" and the tone of his voice, and a few seconds later it occurred to him that Extra 1034 might attempt to go to Smith Creek Yard for No. 41 but he had no way to communicate with the crew of Extra 1034. He understood the rules and special instructions required that the conductor obtain and surrender the Navassa-Hilton block authority and obtain a register check on over-due trains but that it was not customary to establish the identity of those to whom such information was given, because the rules stated plainly that the conductor must obtain and surrender the block. He said that he did not advance inferior trains on the wye track on oral information, without first issuing a restricting order to the superior train. He thought

if such information were written and repeated, that a much greater degree of safety would be afforded.

Dispatcher Keels stated that on account of there being only one dispatcher on duty on the third trick, both the north and south ends of the dispatchers' telephones were connected as Dispatcher Hudson and he checked their transfers preparatory to taking over dispatching duties at 8 a. m. He heard Dispatcher Hudson give Extra 1034 the block at Navassa at 7:56 a. m. and inform the person calling that No. 41 was on time. When the block authority was surrendered at Oil Mill at 8:04 a. m., he took the report and Dispatcher Hudson at that time told the person calling that No. 41 was out of Castle Hayne at 7:58 a. m. and that Extra 1034 could not make Smith Creek Yard for No. 41. The person at the Oil Mill telephone replied, "Oh yeah," and hung up the receiver. He further stated that he had never told any member of a crew to proceed against an opposing train unless they possessed right to do so and he had never heard any other dispatcher do so.

Dispatcher Vanlandingham stated that he had never advanced an inferior train over the wye track against an over-due first-class train without first having issued a restricting order to the superior train, and requiring the conductor on the inferior train to repeat the order, except on one occasion, when the conductor did not repeat the order in its entirety. He further stated that on such occasions the order was placed at the Wilmington yard office for the benefit of yard engines.

Chief Dispatcher Farmer stated that to his knowledge none of his dispatchers had ever advanced a north-bound freight train from Oil Mill to Smith Creek Yard without first having issued a restricting order to the superior train. The practice of authorizing such movements orally had been in effect about 10 years; however, he thought that it would be a safer practice if such information were copied by the person authorized to receive it, and then repeated to the dispatcher.

Superintendent Crocker stated that the practice of dispatchers giving crews oral instead of written register checks against south-bound first-class schedules on the wye track had been in effect since 1930 but he was not aware that brakemen instead of conductors were securing this information. He thought that if there was a proper compliance with the rules and special instructions it was a safe method of operation.

Trainmaster Powell stated that when he became trainmaster on the Wilmington District about 5 years ago, succeeding the present superintendent, he found the practice of brakemen handling the block authority and register checks at Navassa, Hilton, and Oil Mill well established, and for that reason, and because

it expedited train movements and the majority of the brakemen were promoted conductors, he had not objected, although he recognized this practice as disobedience of the rules and special instructions.

#### Observations of the Commission's Inspectors

It was observed by the Commission's inspectors that throughout a distance of about 400 feet in either direction from the point of accident the view across the inside of the curve on which the accident occurred was restricted to a distance of approximately 450 feet.

#### Discussion

According to the evidence, when Extra 1034 North stopped at Navassa the brakeman called the dispatcher by telephone and requested permission to use the block from Navassa to Hilton. The dispatcher granted the block authority orally and informed the brakeman that No. 41 was on time. About 8:04 a. m. the brakeman surrendered the block authority at Oil Mill and Extra 1034 proceeded a distance of about 2,025 feet, at which point it collided with No. 41 on the wye track. The schedule of No. 41 was in effect on this track.

There was considerable discrepancy in the testimony as to the telephone conversation between the brakeman and the dispatcher, while Extra 1034 was standing at Oil Mill. The brakeman stated that the dispatcher told him No. 41 had left Castle Hayne at 7:58 a. m. but they could make Smith Creek Yard with ease. The brakeman said he repeated this information to the conductor who in turn repeated it to the engineman. The conductor said he heard the brakeman make a remark to the dispatcher to the effect that No. 41 had left Castle Hayne at 7:58 a. m. and that Extra 1034 would have time to make Smith Creek Yard for No. 41, after which the brakeman replied, "O. K.," then turned from the telephone and repeated this to the engineman and the conductor. The engineman and the fireman stated that the brakeman informed them the dispatcher had said No. 41 had left Castle Hayne at 7:58 a. m. and Extra 1034 had ample time to go to Smith Creek Yard for No. 41. On the other hand, one of the first-trick dispatchers said he told the person calling from Oil Mill that No. 41 had left Castle Hayne at 7:58 a. m. and that Extra 1034 could not make Smith Creek Yard, and received the response, "Oh yeah." The other first-trick dispatcher, who while making a transfer was cut in on the same line, heard this conversation and corroborated the statement of the first-mentioned dispatcher.

No. 41 was due to leave Smith Creek Yard at 7:59 a. m. and under the rules Extra 1034 was required to clear this schedule at Smith Creek Yard not later than 7:54 a. m., unless given a train

order restricting the superiority of No. 41. The other members of the crew of Extra 1034 indicated that information received from the brakeman gave them the impression that the dispatcher desired them to go to Smith Creek Yard for No. 41 and that this was sufficient authority for them to do so. The conductor said that this was according to the usual practice in effect during the past 7 years. However, the chief dispatcher and three trick dispatchers stated that an inferior train was never authorized to move against an over-due first-class train unless a restricting order had been issued to the first-class train. They indicated that these orders were not issued to inferior trains in the manner prescribed by the rules but that only the substance of an order was given to an inferior train. Undoubtedly this practice induced the members of the crew of Extra 1034 to believe that the superiority of No. 41 had been restricted when the brakeman told them that No. 41 had left Castle Hayne at 7:58 a. m. and they could make Smith Creek Yard with ease. If the crews on inferior trains entering Smith Creek Yard had always received a copy of a train order conferring right upon them against over-due superior trains and if register-check orders, or the equivalent thereof in writing, had always been issued to inferior trains, it is probable that this accident would not have occurred.

Under the system of operation which was in effect where this accident occurred, an accurate register check is essential to the safety of train operation; it is common practice on many railroads to issue such register checks on either train-order forms or special forms and under practices which are designed to insure accuracy. In this investigation it is disclosed that for movements to Smith Creek Yard the register check was being issued orally and in many instances it was not repeated to the dispatcher. This is a lax method, subject to error, and not in conformity with existing rules, although according to the evidence this practice has prevailed for several years.

#### Conclusion

This accident was caused by the failure of an extra train to clear the time of an opposing first-class train.

#### Recommendation

It is recommended that operating officials of this railroad at once take necessary measures to correct the lax practices which were disclosed by this investigation, and give consideration to the need for additional protection at this point.

Respectfully submitted,

S. N. MILLS

Director.