

## INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN THE  
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE  
ILLINOIS CENTRAL RAILROAD AT MOUNDS, ILL., ON  
AUGUST 6, 1928.

October 17, 1928.

To the Commission:

On August 6, 1928, there was a derailment of a passenger train on the Illinois Central Railroad at Mounds, Ill., the wreckage of which collided with another passenger train standing on an adjacent track, resulting in the death of 6 passengers, 1 express messenger and 1 Pullman porter, and the injury of 137 passengers, 1 Pullman porter and 6 employees.

Location and method of operation

This accident occurred on the Centralia District of the St. Louis Division extending between Centralia and Mounds, Ill., a distance of 103.8 miles; in the vicinity of the point of accident this is a double-track line over which trains are operated by one-table, train orders and an automatic block-signal system. The accident occurred within yard limits at Mounds, at a point approximately 970 feet south of the switch leading to the ladder tracks at the north end of the yard, approaching this point from the north there is a  $1^{\circ} 54'$  curve to the right 2,012 feet in length, followed by 2,736 feet of tangent track, the accident occurring on this tangent at a point 152 feet from its southern end. Approaching from the south there is a  $0^{\circ} 10'$  curve to the right 5,572 feet in length leading to the tangent on which the accident occurred. The grade at the point of accident is 0.455 percent descending for southbound trains. The track is laid with 90-pound rails, 33 feet in length, with 20 ties to the rail-length, single-spiked and fully tie-plated, with 6 rail anchors to each rail, it is ballasted with stone to a depth of about 12 inches over a layer of cinders from 10 to 12 inches deep. The general maintenance of the track is good.

The weather was clear at the time of the accident, which occurred at about 5.12 a. m.

### Description

Northbound freight train extra 1522 consisted of 18 cars and a caboose, hauled by engine 1522, and was in charge of Conductor Hess and Engineman Roothe. The tenth car in this train, I.C. 209125, was loaded with 12-inch cast-iron pipe, 16 feet in length. This train departed from Mounds yard at 12.15 a.m., having entered the main track through a crossover located near the center of the yard. Upon reaching a point 970 feet south of the north switch a section of the pipe apparently fell from the tenth car in such a way as to foul the southbound track. The members of the crew were unaware of what had happened, however, and the train proceeded on its way.

Southbound passenger train No. 203, hauled by engine 1151, was in charge of Conductor Walker and Engineman Joest. This train passed Wetaug, the last open office, 15.5 miles north of Mounds, at 2.27 a.m., on time, and while passing through the yard at Mounds, traveling at a speed of about 50 or 55 miles per hour, the pilot of the engine struck the pipe which was fouling the east rail and the impact evidently threw the pipe over on the west rail of the northbound track.

Northbound passenger train No. 16 consisted of one baggage and express car, one coach, one chair car, four Pullman sleeping cars and one club car all of steel construction except the club car, which was of steel-underframe construction, hauled by engine 1161, and was in charge of Conductor Whalin and Engineman Abel. This train passed Mounds at 3.09 a.m., on time, and while traveling at a speed of about 15 miles per hour it encountered the pipe on the track, apparently forcing it against the southbound track in such a manner as to throw that track out of line. Train No. 16 was brought to a stop and immediately afterwards it was sideswiped by the wreckage of southbound train No. 3, which had encountered the irregular track.

Southbound passenger train No. 4 consisted of one baggage car, two coaches, one chair car, one Pullman sleeping car, one buffet car, four Pullman sleeping cars, two office cars and one Pullman sleeping car, in the order named, hauled by engine 2451, and was in charge of Conductor Reader and Enginemen Banks. All of the cars were of steel construction except the 11th car, which was of steel-underframe construction. This train passed Wetaug at 2.58 a.m., 14 minutes late, and was approaching Mounds when it encountered the track which was out of line and was derailed while traveling at a speed estimated to have been between 55 and 65 miles per hour.

Engine 2451 and its tender were derailed to the left and came to rest between the main tracks in an upright position 439 feet south of the point of derailment. The first car in train No. 5 came to rest bottom up at almost right angles to the track and was practically demolished. The second car was lying on its side across both main tracks in a badly damaged condition, while the third car was torn from its trucks and thrown to the east, coming to rest with its rear end on top of the fifth car in train No. 16, the fourth car was in an upright position with its forward end resting on top of the second car, the fifth to the eighth cars, inclusive, and the forward truck of the ninth car were derailed but these cars remained upright and almost parallel to the track. In train No. 16 the rear truck of the second car, the third to the seventh cars, inclusive, and the forward truck of the eighth car, were derailed to the east; the fourth to the seventh cars, inclusive, were overturned and more or less damaged.

#### Summary of evidence

The statements of the crew of extra 1522 were to the effect that there was no rough handling of the train at any time while passing through Mounds yard and that they were unaware that a section of pipe had fallen from the train until some time after the accident. Flagman Burris stated that he walked over top of the car which contained the pipe, which was a gondola car, while the train was at Mounds and he did not notice that any of the sections of pipe appeared to be in danger of falling off, nor did he notice any unusual movement of the train when leaving Mounds which would have caused a shifting of the loading. Conductor Hess said he made an inspection on the west side of the train, with his flagman on the east side, as the train pulled by but he did not notice any irregularities, at no time was he on top of the car loaded with pipe.

Engineman Joost, of train No. 203, stated that when his train was about 3/4 mile north of Mounds, traveling at a speed of 50 to 55 miles per hour, he heard a report that sounded like the explosion of a torpedo and he reduced speed accordingly but did not bring the train to a stop as there was no unusual commotion, although the fireman said he had seen fire flying from under the front end of the engine. While the station work was being performed at Mounds he made an inspection of the engine and discovered a slight mark on the left side of the pilot which indicated that it had come in contact with some object.

Upon arrival at Cairo Junction he instructed his fireman to caution the engineer of train No. 16, as he thought that something had been struck at a point about 1/2 mile north of the overhead bridge at Mounds. Engineman Joest, accompanied by the roundhouse foreman, then made a further inspection and a mark was found on the front truck of the tender, no other marks being noticed. As he had never seen marks of this kind he became somewhat apprehensive and asked the roundhouse foreman to notify the dispatcher of what had occurred and to inform him as to the approximate location of the obstruction. He did not report the incident at Mounds as he was not then certain that his train had struck anything, together with the fact that had he made a report at Mounds it would have resulted in delay to his train, and the further fact that he did not suppose that train No. 3 would need protection since his own train had been able to proceed without difficulty.

Fireman Roy, of train No. 203, stated he too inspected the pilot of his engine at Mounds and saw where it had been scraped, and after departing from that point the matter was discussed with Engineman Joest and it was decided to inform the engineer of train No. 16, the next northbound train, of what had occurred. He said he boarded the engine of that train at Cairo Junction and told the engineer that his own train had struck something in Mounds yard and to watch out as it might have been a draw bar which possibly would foul the northbound track.

The statements of Baggageman Richardson, Conductor Walker, and Flagman Arvin, of train No. 203, were to the effect that they did not know of anything unusual occurring at Mounds until their train arrived at Cairo Junction at about 5.00 or 5.05 a.m.

Engineman Abel, of train No. 16, stated that at Cairo Junction he was informed by the fireman of train No. 203 that the latter train had struck something at the north end of Mounds yard, at a point which Engineman Abel understood was near the lead-track switch. After passing Mounds he reduced speed to about 15 miles per hour and instructed his fireman to look out for an obstruction, and when the train still was about 1,500 feet south of the switch the fireman remarked "there it is now", Engineman Abel immediately applied the air brakes in emergency and brought the train to a stop. He then got off the engine on the left side, without any lantern or torch, and in looking ahead he observed train No. 3 approaching very closely.

He then returned to his engine cab and after train No. 3 had stopped as a result of being derailed he procured a torch and again got off, saw the pipe alongside the tender of his own engine, between the two main tracks, and also noticed that the southbound track was out of line. He further stated that his own train was only a very short distance from the pipe when the fireman warned him and he thought that his engine struck the pipe at about the time he applied the brakes, the derailment of train No. 3 occurring about eight seconds afterwards.

Fireman Palmer, of train No. 16, stated that although he was keeping a close lookout ahead yet he did not see the obstruction until the train was within an engine-length of it, for the reason that the obstruction was nearly the same color as the cinders between the tracks. His other statements practically corroborated those of Engineman Abel. The members of the train crew of train No. 16 were unaware of anything wrong until the train came to a sudden stop. Conductor Whalin said he immediately opened a vestibule door, looked out and observed train No. 3 only a short distance away.

Engineman Banks, of train No. 3, stated that his train was traveling at a speed of about 55 or 60 miles per hour and that his first intimation of anything wrong was when the front end of the engine appeared to leap up and then swerve to the left and collide with the cars in train No. 16. Fireman Alstat, of train No. 3, also did not know of anything wrong until the accident occurred. Flagman Thompson, of the same train, could give no additional facts of importance, except that he estimated the speed of his train at the time of the accident at 60 to 65 miles per hour.

Chief Engineer Blaes, who was riding on train No. 3 at the time of the accident, stated that immediately after its occurrence he made an examination of conditions and found a section of pipe lying between the main tracks. He also noticed a tie in the southbound track which bore marks indicating that it had been struck by one end of the pipe.

Supervisor Thetford stated that he arrived at the scene of the accident at about 3.40 or 3.45 a.m., and found the rails in the southbound track kinked and the track shoved out of line, 6 inches toward the west, for a distance of 19 feet in either direction from the kink. He noticed the pipe lying between the main tracks and also saw some pieces of this pipe under a tie in the

southbound track. It appeared to him that one end of this pipe had been shoved against the east side of the track, forcing it out of line. The statements of Superintendent Shaw substantiated those of Supervisor Tiet-fohl as to the condition of the southbound track subsequent to the accident, and he said that apparently the engine of train No. 16 had struck the larger or bell end of the pipe, forcing the smaller or spigot end of the pipe against the east end of a tie with sufficient force to throw the track out of line.

Inbound Car Inspectors Knight and Yosick both stated they inspected the car of pipe in question on its arrival at Mounds at 10.15 p.m., August 5, and noticed nothing unusual. This inspection was made from the ground by the use of lanterns and as none of the lading could be seen above the top of the car neither of them boarded the car, nor did they know whether the car was loaded properly. They considered this inspection to be in accordance with their instructions, had any of the lading been visible they would have boarded the car. Outbound Car Inspectors Billingsley and Schwieger stated they inspected the cars in extra 1522 before its departure from Mounds, they did not remember this particular car, but as they observed nothing wrong they did not climb on any of the cars.

Master Mechanic Seely stated that the inspectors are not required to get on top of cars to determine if they are loaded according to the A.R.A. rules, as this would result in unusual delay to trains. They have been instructed, however, to pay particular attention to the lading to see that it has not shifted and is safe for movement over the division.

According to the statements of various employees an effort was made to prevent the accident as soon as it became known that train No. 203 apparently had struck some object while passing through the yard at Mounds. Roundhouse Foreman Remacle, at Cairo Junction, said that when informed by the engineer of that train as to what had occurred he made an inspection of the engine and upon finding a mark on the pilot and another on the front truck of the tender he notified the dispatcher as to the approximate location of the obstruction and told him to communicate with some one at Mounds with a view to having it located if possible. Dispatcher Wilson, on duty at Cairo Junction, said that he immediately complied with Roundhouse Foreman Remacle's request, which was at

3 a.m., by calling the switchmen's shanty and the yard office, as well as attempting to call the operator at Mounds station. He was unable to get in communication with anybody until 3.05 a.m., when the yard clerk answered the telephone and was told to notify the yardmaster or the engine foreman as to the location of the obstruction. The dispatcher also said that had he been able to communicate with the operator at Mounds there would have been ample time in which to have stopped train No. 16. Yard Clerk Holms said that as soon as he received the information he immediately left the office and notified the yardmaster of the difficulty. Yardmaster Palmer said he promptly proceeded to the yard engine, which then was working about 12 car-lengths from the office, and after informing the crew of what had happened he accompanied the engine northward, but on account of the fact that it was 3.05 or 3.06 a.m. before he learned of the situation, and as several switches had to be lined for the movement of the switch engine through the yard, he was unable to reach the point of accident prior to its occurrence. He also said that train No. 16 had passed the yard office before he learned that there was anything wrong. Operator Green, on duty at Mounds station, said he did not hear his own telephone ring between 3.00 and 3.05 a.m., but plugged in during that time and heard the conversation between Dispatcher Wilson and Yard Clerk Holms, he did not notify the dispatcher that he was listening. He also stated that he misunderstood the dispatcher as to the location of the obstruction and was of the impression that it was at the south end of the yard, consequently he made no attempt to flag train No. 16.

An inspection of the pilot of engine 1161, of train No. 203, disclosed a mark  $7\frac{1}{2}$  inches long, in the iron band at the extreme left corner of the pilot; the pilot is located  $4\frac{1}{2}$  inches above the rails. The front tender-truck equalizer showed seven distinct marks 5 inches from the bottom of the equalizer, which in turn is  $5\frac{1}{2}$  inches above the tops of the rails. The pilot of engine 1161, of train No. 16, which was demolished from its contact with the pipe, disclosed an indentation  $\frac{1}{2}$  inch in depth on the left side of the iron band 31 inches from its left corner, this appearing to be the point at which the bell end of the pipe came in contact with the pilot.

As previously stated, the section of cast iron pipe responsible for the occurrence of this accident fell from the tenth car in the train of extra 1522. This car, IC 209125, is a high-side fixed-end gondola, the inside height is 4 feet  $10\frac{1}{2}$  inches, and it was loaded with 12-inch

pipe, 16 feet in length, in two piles. The billing for this car called for 69 pieces of pipe, but on its arrival at East St. Louis, after the occurrence of the accident, it was found that 1 piece was missing. Inspection of the lading was also made at that time and it showed that there were three sections of pipe above the sides of the car on the "A" or head end, and the same situation prevailed on the "B" or rear end of the car. This inspection also showed that the section of pipe which had fallen from the car in the yard at Mounds had been resting on top of the load on the left side of the rear end of the car as it stood in the train of extra 1522, there being marks on the sections of pipe on which this particular section had been resting. It also appeared that the lading had been shifting back and forth, as evidenced by abrasions on the side of the car which were 17 inches in length. This shifting had permitted some of the pipe to slide off the wooden cross pieces which had been placed between the layers of pipe, allowing some of them to settle to the extent of several inches, undoubtedly resulting in disturbing the position of the top layer of pipe. There were no wires or stakes to hold the lading in position.

During the night of August 9 a test was made to determine the maximum distance from which it would be possible to see a pipe of the same size placed in the position it is supposed to have been in at the time it was struck by train No. 16. An engine of approximately the same size, equipped with a headlight of the same type as that on engine 1161, was used for this purpose, the test being made with the engine moving at a speed of about 15 miles per hour. It was found that this section of pipe could be seen from the fireman's side of the engine for a distance of 600 feet and from the engineman's side for a distance of 400 feet.

#### Conclusions

This accident was caused by the damaged condition of the track, due to train No. 16 having struck a section of cast iron pipe which was fouling the northbound track, forcing it against the southbound track in such a manner as to throw the latter track out of alignment.

The evidence indicated that the section of pipe responsible for the occurrence of this accident had fallen from the tenth car in the train of extra 1522, fouling the southbound track and being struck first by southbound train No. 203. Apparently the crew of extra 1522, which was northbound, knew nothing of what had happened, but according

to the evidence both Engineman Joest and Fireman Roy, of train No. 203, knew that their engine had come in contact with some object while the train was passing through the yard. They said that at that time, however, they were of the impression it was a torpedo and as a result the speed of their train was reduced, not being brought to a stop until it had reached the station, some distance south of where the obstruction had been encountered. While inspecting the engine at that point Engineman Joest found marks on the pilot indicating that it had struck something but he did not report the incident until his train had reached Cairo Junction. The engineman of train No. 16 was then notified as to what had occurred, and after another inspection of engine 1151 had been made and additional marks discovered on the front-tender truck, the dispatcher was notified and he endeavored to communicate with some one at Mounds for the purpose of locating the obstruction, but after he had gotten in touch with the yard office there was not sufficient time for the crew of the yard engine to reach the point of accident prior to its occurrence. Had Engineman Joest reported the matter to the operator before leaving Mounds there would have been ample time in which to have located the obstruction and have it removed from the track before the arrival of train No. 16.

The engineman and fireman of train No. 16 were aware at the time their train departed from Cairo Junction that train No. 203 apparently had struck some foreign object in the yard at Mounds. The speed of their train had been reduced accordingly, and they were on the alert, but the obstruction was not seen until it was only about an engine-length distant, Engineman Abel saying that he was expecting to find it near the lead-track switch or about 970 feet north of where it actually was encountered. The evidence showed quite clearly that at that time one end of the section of pipe was resting against a tie in the southbound track, and that when the opposite end of the pipe was struck by the engine of train No. 16 it forced the southbound track out of line. It also appeared that at the time train No. 16 was brought to a stop, train No. 3 was then approaching at a high rate of speed, only a short distance away, and that there was not sufficient time in which to warn the crew of that train of the existing danger.

It was developed that only a casual inspection was made at Mounds of the car of pipe which forced a part of the train of extra 1522. None of the inspectors involved boarded the car for the purpose of inspecting the

lading, for the reason that at the time they made their inspection none of the pipe was protruding above or over the sides of the car, although they had instructions to pay particular attention to cars loaded with such commodities as right shift in transit. The members of the crew of extra 1522 stated that there was no rough handling of the train when it was leaving Mounes yard, but regardless of this fact it would appear that the pipe, which dropped from the car less than 1 mile from where the train started, must have been in a dangerous position and that this fact could have been detected had the proper inspection of the lading been made.

The employees involved were experienced men and at the time of the accident none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. BOPLAND,

Director.