

INTERSTATE COMMERCE COMMISSION

WASHINGTON

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REPORT OF THE DIRECTOR

BUREAU OF SAFETY

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ACCIDENT ON THE

WABASH RAILWAY

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GLENWOOD JCT., MO.

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JANUARY 9, 1937

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INVESTIGATION NO. 2136

SUMMARY

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Inv-2136

Railroad: Wabash  
Date: January 9, 1937  
Location: Glenwood Jct., Mo.  
Kind of accident: Derailment  
Train involved: Freight  
Train number: 98  
Engine number: 2416  
Consist: 50 cars and caboose  
Speed: 18-20 m.p.h.  
Track: 3<sup>o</sup> curve; descending grade of 1.035 percent followed by .55 percent ascending grade  
Weather: Clear and cold  
Time: 12:55 a.m.  
Casualties: 1 killed and 1 injured  
Cause: Ice in flangeways at highway crossing

March 12, 1937.

To the Commission:

On January 9, 1937, there was a derailment of a freight train on the Wabash Railway near Glenwood Jct., Mo., which resulted in the death of 1 employee and the injury of 1 employee.

#### Location and method of operation

This accident occurred on the 15th District of the Moberly Division which extends between Moberly, Mo., and Moulton, Ia., a distance of 95.3 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 a manual block system. The accident occurred at a highway grade crossing located approximately 0.6 mile east of the station at Glenwood Jct.; approaching this point from the west the track is tangent for a distance of 2,633 feet, followed by a 30° curve to the left 591 feet in length, the accident occurring on this curve about 118 feet from its eastern end. The grade for east-bound trains is descending, varying from 0.1 to 1.065 percent for a distance of about 1/2 mile to within 125 feet of the point of accident; it is then 0.55 percent ascending to and beyond the crossing.

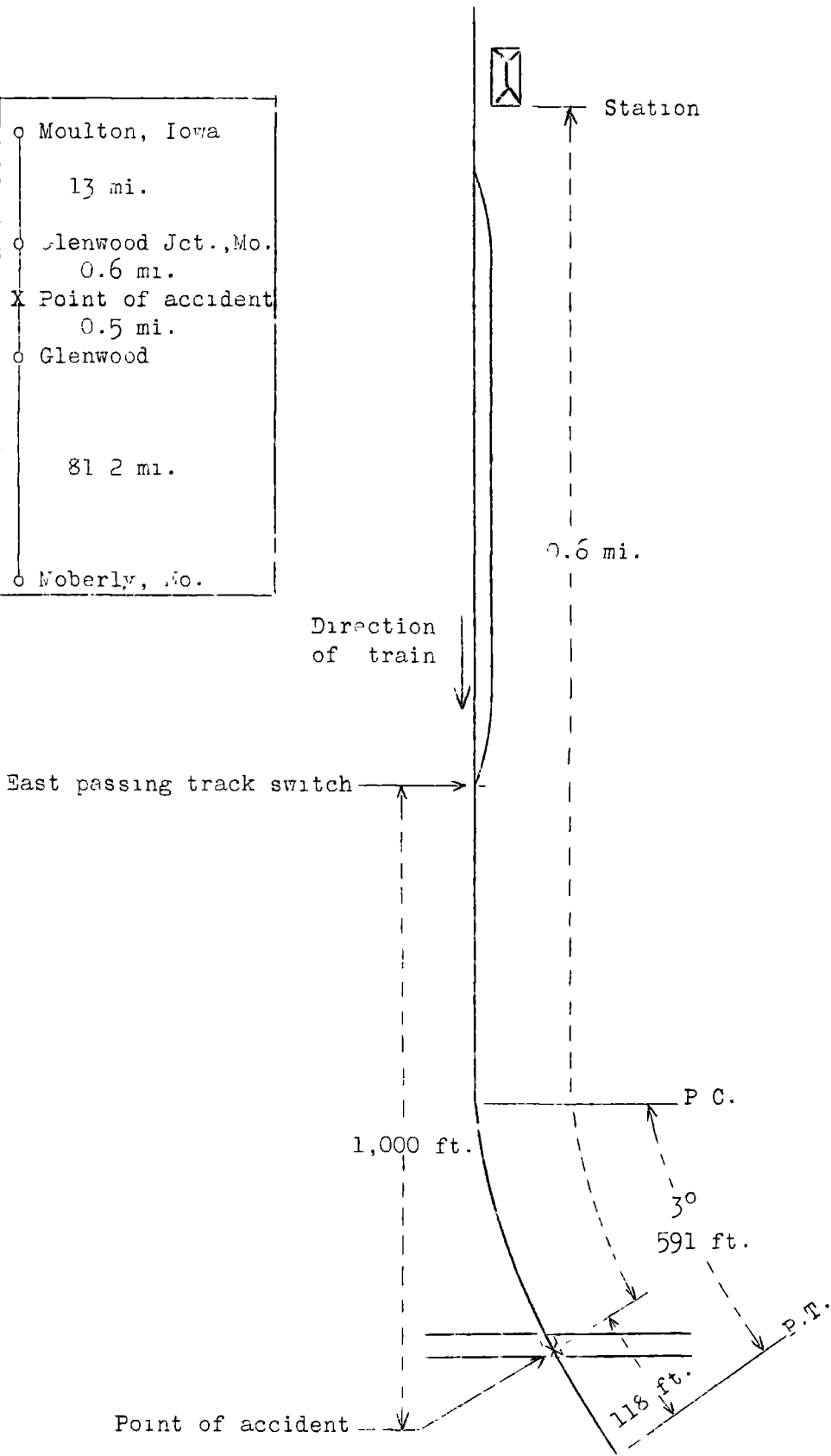
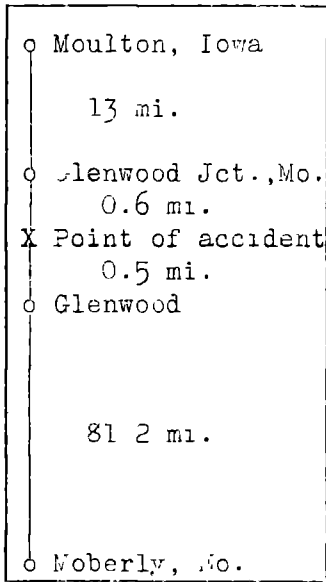
The track is laid with 80-pound rails, 30 feet in length, with 18 ties to the rail-length, and ballasted with cinders to a depth of 15 inches; it is fairly well maintained. The maximum speed permitted on this district for engines equipped with single engine trucks, the type involved in this accident, is 40 miles per hour.

An unimproved highway crosses the track at an angle of 51° 51'. The crossing is 14 feet in width and covered with oak planks 4 inches in thickness.

The weather was clear and cold at the time of the accident, which occurred about 12:55 a.m.

#### Description

Train No. 98, an east-bound freight train, consisted of 50 cars and a caboose, hauled by engine 2416, of the 2-8-2 type, and was in charge of Conductor Camplin and Engineman Wedsworth. This train departed from Moulton, its initial terminal, 13 miles from Glenwood Jct., at 10:25 p.m., January 8, according to the train sheet, 3 hours 15 minutes late, and



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proceeded a distance of about 6 miles when the engine-truck wheels became derailed at a highway grade crossing. The truck was rerailed and the train proceeded a distance of about 5 miles when the truck again was derailed at another highway grade crossing, but became rerailed at the frog of a switch. The train then proceeded about  $2\frac{1}{2}$  miles when the third and final derailment occurred while traveling at a speed estimated to have been 18 or 20 miles per hour.

The engine, tender, first four cars and the front truck of the fifth car were derailed. The engine stopped on its right side, almost parallel with the track and about 180 feet beyond the crossing; the tender, coupled to the engine, stopped on its right side across the track, while the four cars stopped in various positions across the track, the first two cars being destroyed. The employee killed was the head brakeman and the employee injured was the engineman.

#### Summary of evidence

Engineman Wadsworth stated that he did not realize the first derailment had occurred until he saw fire flying, at which time the train had traveled from 15 to 18 car lengths since becoming derailed. After rerailing the engine truck he closely examined the engine from underneath to see if there was anything broken, but found everything in good condition. He intended to leave some of the cars at Coatesville, 5.2 miles from Glenwood Jct., but due to inability to open the switch, his train proceeded. He did not realize that the engine truck was derailed the second time until it became rerailed through striking a frog at a railroad crossing. He immediately stopped the train and sent the brakeman back to inspect the crossing, who, upon his return told him that the engine truck had been derailed. Engineman Wadsworth again carefully examined the engine. The train then proceeded to Glenwood Jct., and after passing the west switch of the passing track at that point Engineman Wadsworth looked back and saw the headlight of Train No. 14. As the siding would not hold his train he figured on pulling down far enough to permit that train to enter the passing track and then saw them by his train, but on striking the crossing, situated 1,000 feet beyond the east switch of the passing track, his train became derailed while traveling at a speed of between 15 and 20 miles per hour. He was expecting trouble, had made a 5-pound brake pipe reduction and had his hands on both brake valve handles while he leaned out of the window as far as possible, watching the pilot, and when he saw it lurch he applied the brakes in emergency. He said the derailments were due to ice on the

crossings. The general mechanical condition of the engine was good and the air brakes had been tested at Moulton and functioned properly en route.

Fireman Cannon stated that on leaving Moulton the rails were covered with ice and there was a difficulty in getting started. At every road crossing the engine seemed to move up and down with a tendency to jump off the track. The speed of his train was 15 miles per hour at the time of the first derailment, between 20 and 25 miles per hour at the time of the second derailment and between 18 and 20 miles per hour during the final derailment. He examined the crossing where the first derailment occurred and found it packed hard with ice by automobile traffic. The first two derailments occurred on tangent track.

Conductor Gamplin stated that while he held two slow orders they did not cover any portion of the track at which the derailments occurred, nor were they issued because of ice or sleet conditions. The rails were coated with ice, however, and at the highway crossings the ice was packed so solidly that the engine truck flanges could not cut through, resulting in the derailments.

Flagman Miller stated that after the first derailment he went back to protect the rear end of his train. He flagged Train No. 14 and then rode on that train to Glenwood Junction.

Section Foreman Simbro stated that the second and third derailments of Train No. 96 occurred within his territory, which consists of about  $9\frac{1}{2}$  miles of main track. It rained in the early morning of January 8, but no rain, sleet or snow fell after 7:15 a.m.; it then turned cold and the ground was covered with about 5 inches of snow and ice. He had never before experienced such a storm. He first worked at Glenwood and then proceeded eastward on foot for about  $5\frac{3}{4}$  miles, to inspect the track, as it was impossible to get the motor car out on account of ice on the rails, which he thought was about  $\frac{1}{2}$  inch deep. He traversed eight highway crossings, removing ice from four of these crossings, and returned to Glenwood about 6:30 p.m. His two section laborers inspected the track west of Glenwood and he instructed them to clean the switches, giving them a switch key to use while doing so. When they returned from their inspection they told him that they had cleaned the switches and that conditions were about the same as those on the east end of the section, no condition being found that was considered unsafe for train operation, and he did not feel it was necessary to protect the track by flag during the night. He did not report the ice condition as

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the wires were down and he had no means of communication; he said it is not necessary to have special authority to patrol the track in case of severe storm. Section Foreman Simbro arrived at the scene of accident about 1 hour after its occurrence and from the marks, a wheel flange apparently had climbed the right rail then ran a few feet and dropped off on the right side of the rail. Marks on the right side of each rail continued in the snow and ice for a distance of about 75 feet. There were no marks of any kind west of the crossing. He said that the crossing at which the accident occurred affords a short cut to Glenwood for highway traffic from the west and considerable traffic passes over it. He had frequently found the flangeways at this crossing filled.

Section Laborers Toney and Shobe stated that in walking over the west end of their section they noticed all of the crossings, and the condition of the crossing at which the accident occurred was no worse than that of the other crossings; they did not make a thorough inspection of conditions at this particular crossing and no ice was loosened from the flangeways.

Division Engineer Crowe stated that he arrived at the scene of the accident about 9 a.m. The first mark of derailment was a flange mark on top of the right rail about 2 feet from the east end of the crossing, indicating that the engine-truck wheel mounted the rail at that point, then ran on top of the rail a distance of 8 feet before it dropped down on the outside of the rail. The right rail was broken at a point 60 or 70 feet east of the first mark of derailment, indicating that it had been struck by the left wheels of the engine. There were no marks west of the crossing. About 8 feet of the center of the crossing was covered with snow and ice to a depth of 2 7/8 inches above the top of the rail, this condition then tapering off to the ends of the crossing. Division Engineer Crowe stated that he inspected the other two crossings at which the engine had been derailed and he found about the same conditions at those points; these crossings were also planked. In addition to the three derailments of engine 2416, five other derailments had occurred at highway crossings on the night of the accident, within a distance of 110 miles, including two derailments of the wrecker en route to the scene of accident here under investigation, all apparently caused by ice and snow. These derailments caused but little damage to track or equipment. Division Engineer Crowe further stated that it is not necessary to issue special instructions in

case of severe storms, as this is covered by the rules, and that track supervisors have authority to engage additional help as may be necessary to clear away snow and ice or to care for their track in time of emergency.

Trainmaster McHugh stated that he rode on the wrecker from Moberly to the scene of accident and that an engine-truck wheel of this train was derailed at a highway crossing in the vicinity of Kirksville, 25 miles from Glenwood Jct., and also at a highway crossing 1/8 mile east of Glenwood, the wrecker arriving at the scene of accident about 10:45 a.m. He made an inspection of engine 2416 as it lay on its side; all flanges and tires were in good condition, the pilot was intact, and there was no evidence of anything having been dragging.

Chief Train Dispatcher Greathouse stated that on January 7 the district between Moberly and Moulton was covered with about 2½ inches of sleet, which was followed by rain that froze as it struck the ground, and at 5:30 a.m. on the 8th all telephone and telegraph wires leading out of Moberly were severed. The last train to pass the point of accident was Train No. 11, approximately 22 hours before the occurrence of the accident. Other train service had been abandoned on account of wire trouble. This was the worst storm he had ever experienced.

Track Supervisor Tesh stated that on January 8 he was working on a wire train out of Moberly, which tied up at Macon that evening. He had not been in the vicinity of Glenwood Junction since the morning of January 7, when he went over the western end of this district on his motor car, at which time the track was in good condition, although on approaching Kirksville, 25 miles from Glenwood Junction, it was necessary for him to set his motor car off the track and walk to Kirksville on account of ice on the rails. He did not issue any special instructions regarding track inspection as he could not get in touch with his foremen on account of wire trouble, but they have instructions that when unfavorable weather conditions develop on their territory, they are to inspect the track as soon as possible.

Inspection of the track by the Commission's inspectors disclosed nothing in addition to the marks previously described, and inspection of the engine did not reveal any defects that could have contributed to the cause of the accident.



### Discussion

On January 7 and 8 there was a severe sleet storm, followed by rain which froze as it struck the ground, covering the ground with ice and sleet and filling the flangeways on highway crossings. All wire communication was lost, and no train had passed the point of accident for 22 hours prior to the accident. No sleet, rain or snow had fallen after 7:15 a.m. on January 8, and on that afternoon the section crew patrolled the track on foot. Nothing was found at that time which was considered unsafe for train operation and no work was performed on the crossing involved, although the flangeways at some of the crossings had been cleared of ice.

Train No. 98 travelled a distance of about 14 miles from its initial terminal to the point of accident and within that distance it was derailed at three highway crossings, due to ice on the flangeways, but no damage resulted until the final derailment. During the night of the accident five other derailments had occurred at highway crossings due to ice and snow in the flangeways, although none of these derailments resulted in injury or serious damage to track or equipment.

### Conclusion

This accident was caused by ice in the flangeways of a highway crossing.

Respectfully submitted,

W. J. PATTERSON,

Director.