

INTERSTATE COMMERCE COMMISSION

WASHINGTON

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REPORT OF THE DIRECTOR

BUREAU OF SAFETY

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ACCIDENT ON THE

ATCHISON, TOPEKA & SANTA FE RAILWAY

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ELLINWOOD, KANS.

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JANUARY 2, 1937

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INVESTIGATION NO. 2132

SUMMARY

Railroad: Atchison, Topeka & Santa Fe  
Date: January 2, 1937  
Location: Ellinwood, Kans.  
Kind of accident: Rear-end collision  
Trains involved: Freight : Freight  
Train numbers: Extra 1807 : Extra 1207  
Engine numbers: 1807 : 1207  
Consist: 38 cars and : 10 cars and  
caboose caboose  
Speed: Standing : 10-25 m.p.h.  
Track: Tangent; slight descending grade for  
east-bound trains  
Weather: Clear and dark  
Time: 6:47 p.m.  
Casualties: 2 killed and 15 injured  
Cause: Failure of Extra 1207 to be operated  
under proper control within yard limits

March 9, 1937

To the Commission:

On January 2, 1937, there was a rear-end collision between two freight trains on the Atchison, Topeka & Santa Fe Railway at Ellinwood, Kans., which resulted in the death of 1 stockman and 1 employee and the injury of 12 stockmen and 3 employees.

#### Location and method of operation

This accident occurred on the First District of the Western Division which extends between Kingsley and Newton, Kans., a distance of 131.6 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 form of block-signal system being in use. The accident occurred within yard limits at a point 1,491 feet west of the west passing-track switch; approaching this point from the west the track is tangent for approximately 2 miles. The grade for east-bound trains is slightly descending for several miles, being 0.105 percent descending at the point of accident.

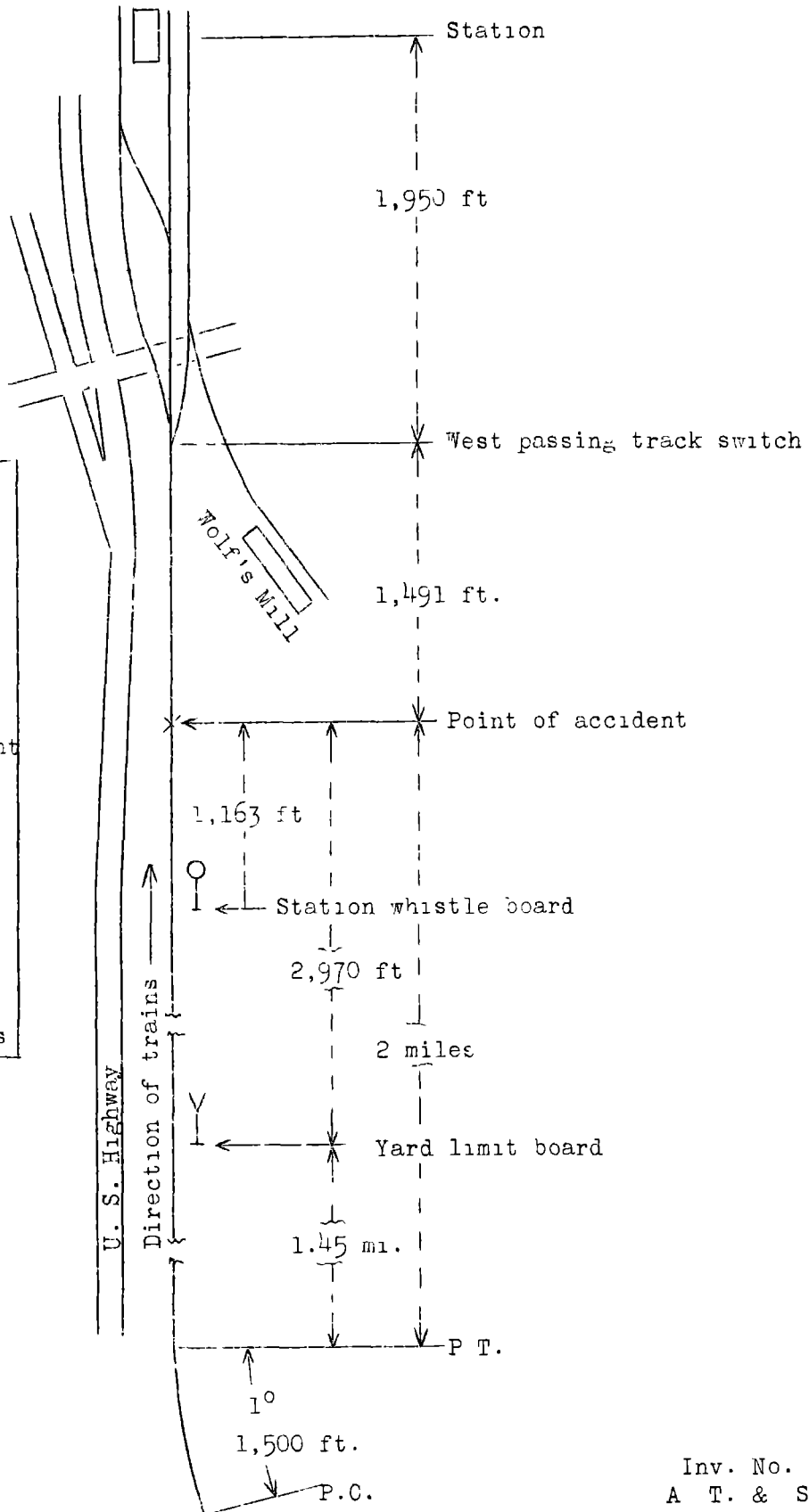
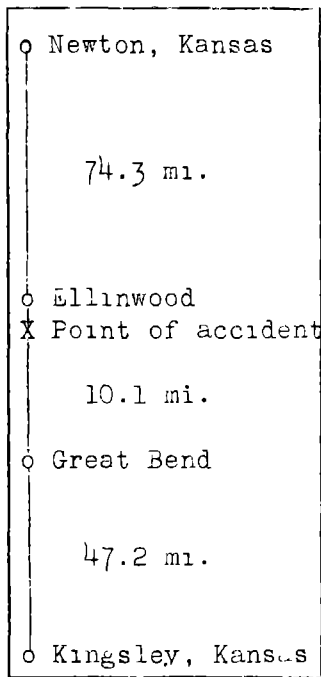
The weather was clear and it was dark at the time of the accident, which occurred about 6:47 p.m.

#### Description

Extra 1807, an east-bound freight train, consisted of 37 cars, a drover's car and a caboose, these last two cars being of all steel construction, hauled by engine 1807, and was in charge of Conductor Hendry and Engineman Finley. This train departed from Great Bend, the last open office, 10.1 miles from Ellinwood, at 6:05 p.m., according to the train sheet, stopped with the engine near the west switch of the passing track at Ellinwood about 6:25 p.m. and the caboose 2,970 feet east of the west yard limit board, where it was standing when struck by Extra 1207.

Extra 1207, an east-bound freight train, consisted of 10 cars and a caboose, hauled by engine 1207, and was in charge of Conductor Arthur and Engineman Hall. This train departed from Great Bend at 6:30 p.m., and collided with the rear end of Extra 1807 while traveling at a speed variously estimated to have been between 10 and 25 miles per hour.

The caboose, the drover's car and two rear cars of Extra 1807 were derailed to the right; the caboose and rear stock car were destroyed and the drover's car and the other stock car were badly damaged. Engine 1207 was derailed to the left of the track and stopped leaning at an angle of about 45°, with its front end about 150 feet beyond the point of accident. The tender, and the front trucks of the first two cars, were derailed, but neither of the cars was damaged. The employee killed was the conductor



Inv. No. 2132  
 A T. & S F. Ry.  
 Ellinwood, Kansas  
 January 2, 1937.

of Extra 1807 and the employees injured were the engineman, fireman and head brakeman of Extra 1207.

#### Summary of evidence

Engineman Finley, of Extra 1807, stated that the weather was clear and he had no trouble in seeing the yard limit board or the switch lights, and the only thing that interfered with his view was when he shut off steam and the smoke drifted downward until the blower was applied to raise it. Engineman Finley stopped his train near the mill track, the switch of this track being located a short distance beyond the west passing-track switch. Several cars were to be set out and others picked up, the remaining cars of the train being left with the brakes applied; the accident occurred while the work was being done. He did not learn of its occurrence until he recoupled to his train.

Fireman Miller and Head Brakeman Conway, of Extra 1807, stated that on approaching Ellinwood they had no difficulty in seeing the yard limit board and the switch lights and after the stop was made they saw the caboose marker lights burning. Head Brakeman Conway stated that the work was handled in the usual manner, the stop being made at the mill switch as cars were to be picked up from that track, but as these cars were not ready when the stop was made they proceeded to perform other work. Head Brakeman Conway also stated that after the accident he saw one of the marker lights on the caboose still burning brightly.

Flagman Little, of Extra 1807, stated that the marker lights on his caboose were lighted and burning brightly. He said the conductor was working at his desk when the stop was made at Ellinwood; he went to the mill to see about the cars to be moved and was at that point when the accident occurred and knew nothing of its occurrence until later. Under the circumstances he did not think it necessary to throw off a fusee approaching Ellinwood or to protect by flag as the visibility was good and his train was going to clear immediately for Train No. 65, due at Ellinwood at 7:07 p.m.

Engineman Hall, of Extra 1207, stated that after leaving Great Bend he operated his train at a speed of approximately 45 miles per hour. On approaching the curve west of Ellinwood he made a 5-pound brake-pipe reduction, and on rounding the curve he looked for Extra 1807 ahead but did not see it and thought that he could see ahead for a distance of 25 or 30 car lengths. The speed had been reduced to about 25 miles per hour when he released the air brakes at a point about 20 car lengths west of the yard limit board. The train then drifted to the station board where he sounded the station whistle signal and made another 5 or 7-pound brake-pipe reduction; he placed the brake valve in

lap position and the brakes had just begun to take hold when he saw the caboose about 10 car lengths ahead. He immediately placed the brake valve in emergency position and at the same time the fireman called a warning. He told the fireman and brakeman to get off and he then reversed the engine and at the same time slightly opened the throttle, but on hearing the drivers slide he moved the reverse lever to forward position and entirely closed the throttle. He jumped off when the engine was about 3 car lengths from the train ahead, at which time the speed of his train was 12 or 15 miles per hour. Engineman Hall also stated that on approaching Ellinwood he was looking ahead through the open side window and saw the red indication of the train-order signal at the station but he did not see the caboose marker lights ahead until after he had seen the caboose, saying that those lights were dim. When he lit the headlight that evening he noticed that it was focused slightly downward but at that time he did not think this interfered with his view ahead. There was nothing about the engine to obscure his view; the blower was lifting the smoke, but he thought that automobile lights on the highway paralleling the track, the lights from the town, and the train order signal light at the station may have created a condition which made distance deceiving, for it appeared as though he could see about twice as far as was actually the case. These lights had never interfered with his vision before, although it was darker than usual on the night of the accident. Engineman Hall stated that he had frequently overtaken trains at Ellinwood but previously had never experienced any difficulty in stopping his train. He was looking ahead expecting to pull in the passing track switch for Train No. 35, providing the track was clear to that point. He understood the yard limit rules, and knew that he should proceed prepared to stop his train within the distance the track was seen to be clear. A terminal air brake test had been made at Larned and he had experienced no trouble en route. Engineman Hall was in good physical condition, and had had sufficient rest prior to going on duty at 5:30 p.m.

Fireman Pate, of Extra 1207, stated that on approaching Ellinwood he was on his seatbox looking ahead through the front window most of the time although when they neared the point of accident he was looking out through the open side window. After leaving Great Bend the maximum speed was 35 or 40 miles per hour and the first reduction in speed that he noticed on approaching Ellinwood, was when the engineman made a brake-pipe reduction in the vicinity of the yard limit board. The speed had been reduced to about 25 miles per hour when he saw two red lights ahead and he hesitated 15 or 30 seconds before warning the engineman, as he was trying to place their location. He realized the speed of his train was too high, however, and when he warned the engineman he thought the lights were about 40 or 45 car lengths away. The engineman did not say anything, but looked through the front

window, and then out of the side window, in an attempt to locate the lights for himself; about 30 seconds after the warning, the engineman applied the air brakes in emergency. Fireman Pate said he jumped off when his engine was about 3 car lengths from the caboose, and the speed of his train was between 20 and 25 miles per hour, although he thought the speed was reduced an additional 5 or 10 miles per hour at the time of the collision. The headlight on his engine appeared to be normal, but he did not see its reflection on the caboose until they were rather close to it. There was nothing to interfere with the view of the track ahead, although he thought the reflection of the automobile lights on the highway might have caused the marker lights to appear farther away than they actually were. He understood the yard limit rules, and had last been examined in April, 1936.

Head Brakeman Mathews, of Extra 1207, stated that approaching Ellinwood he was standing in the gangway and he first noticed the engineman make a brake-pipe reduction after passing the curve west of the yard-limit board. He thought the brakes were released and did not remember of any later reduction being made. While he did not see the yard limit board he knew its location and estimated the speed of their train to have been about 40 miles per hour in that vicinity, and when they were about 25 car lengths beyond the yard limit board he looked ahead and saw the two marker lights. He did not say anything to the engineman as the fireman had already warned him. He thought the brakes had been applied at the time he saw the markers, although he did not remember of an emergency application being made at any time. The speed was between 20 and 25 miles per hour when he jumped off and he was about 3 car lengths from the engine when he recovered his footing.

Conductor Arthur and Flagman McNabney, of Extra 1207, stated that the air brakes had been tested at Larned, their initial terminal and also at Great Bend, where the last pick-up was made, and on leaving that point the air gauge showed a pressure of 70 pounds. Conductor Arthur estimated the maximum speed to have been 45 miles per hour after leaving Great Bend, while Flagman McNabney thought it was about 35 miles per hour. As the caboose rounded the curve west of Ellinwood they felt an air brake application, the speed being about 25 miles per hour when the emergency application was made, followed by the collision.

Master Mechanic Lowler stated that on his arrival at the scene of the accident he made an inspection of the cab of engine 1207, and found the reverse lever on center; main throttle valve closed; automatic brake valve in full release position; independent brake valve in running position and the front sanders in service position. Inspection of the cars and caboose indicated the angle cocks were open and the brake shoes were against the

wheels. Inspection of all the wheels showed burned spots, indicating that an emergency or a heavy service application of the brakes had been made; none of the wheels showed indications of sliding. After the derailed cars had been rerailed and moved to Great Bend, a test was made of the air brake equipment and the brakes were found to be working properly.

Road Foreman of Engines Allison and Division Foreman Jander stated that after the accident engine 1207 was moved to Way, Kans., where a check was made of the air brake equipment on the engine and tender. The brake pipe leading to the front of the engine and the drain valve in bottom of main reservoir were broken off. The pipe from the main reservoir to the distributing valve was broken at the distributing valve connection. The dead engine fixture pipe was broken off at the fitting to main reservoir pipe, close to distributing valve; these were all new breaks. The driver brake rigging was badly broken and was not serviceable after the accident; the tender brake rigging was intact. After the above-mentioned defects were repaired, with the exception of the driver brake rigging, tests were made of the air brake equipment and nothing wrong was noted. The sanders were also tested; sand pipes and sand trips were in good condition and functioned properly. There were no flat spots on the driving tires or tender wheels.

Observations of the track and surrounding conditions at the scene of the accident were made by the Commission's inspectors, and they did not observe any condition which would prevent an engineman from seeing the track ahead either during the day or night. The highway, which parallels the track, is from 66 to 90 feet north thereof and at such a distance that approaching automobile headlights would not interfere with an east-bound engineman's view of the track ahead. Inspection of one of the marker lamps from Extra 1207's caboose showed it to be in good condition, and when lighted it produced a clear, bright light. The other marker was lost in the wreckage.

#### Discussion

The rules of this railroad provide that all except first-class trains will move within yard limits at restricted speed, and that the responsibility for accident, with respect to second or third class or extra trains, rests with the approaching train. Restricted speed is defined as "proceed prepared to stop short of train, obstruction, or anything that may require the speed of a train to be reduced".

Engineman Hall, of Extra 1207, thoroughly understood the rules, there was nothing about the engine to obscure his view ahead and the track was tangent for at least 2 miles approaching the point of accident, yet he stated that he did not see



the caboose until within 10 car lengths from it. Fireman Pate stated that when he warned the engineman of the red lights ahead, he thought they were about 40 or 45 car lengths away and that the engineman then looked ahead and it was at least 30 seconds before he applied the air brakes in emergency. Head Brakeman Mathew stated that when he saw the marker lights, the fireman had already warned the engineman. According to the evidence, the speed was about 45 miles per hour in the vicinity of the curve 2 miles west of the point of accident and about 25 miles per hour at the time the emergency application was made just prior to the accident. It is not believed that the speed had been materially reduced at the time of the collision, and the position of the equipment after the accident and the distance the train traveled after striking the rear end of Extra 1807, indicate relatively high speed.

Conclusion

This accident was caused by the failure of Extra 1207 to be operated under proper control within yard limits.

Respectfully submitted,

W. J. PATTERSON,

Director.