

RAILROAD ACCIDENT INVESTIGATION

REPORT NO. 4111

GULF, MOBILE AND OHIO RAILROAD

WILLOW SPRINGS, ILL.

FEBRUARY 27, 1967

**DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION**

WASHINGTON

SUMMARY

DATE:	February 27, 1967	
RAILROAD:	Gulf, Mobile and Ohio	
LOCATION:	Willow Springs, Ill.	
KIND OF ACCIDENT:	Collision	
EQUIPMENT INVOLVED:	Freight train	Motortruck
TRAIN NUMBER:	Extra 882A North	
LOCOMOTIVE NUMBERS:	Diesel-electric units 882A, B74, B60, 805A	
CONSISTS:	Diesel-electric unit SAL 4031 in tow, 95 cars, caboose	Tractor, semi- trailer
ESTIMATED SPEEDS:	30 m.p.h.	Standing
OPERATION:	Timetable, train orders, automatic block-signal system	
TRACK:	Double; tangent; level	
HIGHWAY:	Tangent; 0.6 percent de- scending eastward; crosses tracks at angle of 90 degrees	
WEATHER:	Rain-snow; partly foggy	
TIME:	1:15 p.m.	
CASUALTIES:	2 injured	
CAUSE	Motortruck stalling on the rail-highway grade crossing in front of the train, due to a defective condition of its engine	

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY BOARD

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SYNOPSIS

On February 27, 1967, a Gulf, Mobile and Ohio Railroad freight train struck a motortruck stalled on a rail-highway grade crossing near Willow Springs, Ill. Two train crew members were injured.

The accident was caused by the motortruck stalling on the rail-highway grade crossing in front of the train, due to a defective condition of its engine.

LOCATION AND METHOD OF OPERATION

The accident occurred on that part of the Eastern Division extending between Bloomington and Chicago, Ill., a distance of 126.6 miles. In the accident area this is a double-track line over which trains moving with the current of traffic operate by timetable, train orders, and an automatic block-signal system.

The collision occurred on the northward main track, 106.8 miles north of Bloomington and 2.3 miles south of Willow Springs, where the railroad is crossed at grade by a private road.

The plant of a chemical company is located in the northwest angle of the crossing, as indicated in the sketch appended to this report. The office of the plant is 405 feet west and 400 feet north of the crossing. The private road involved extends from the chemical company plant.

Automatic crossing-warning signals and gates afford protection at the crossing.

Details concerning the main tracks, private road and crossing, crossing-warning signals, train, motortruck involved, damages, and other factors are set forth in the appendix.

DESCRIPTION AND DISCUSSION

Extra 882A North, a northbound freight train consisting of 4 diesel-electric units coupled in multiple-unit control, 1 diesel-electric unit in tow, 95 cars and a caboose, left Bloomington at 10:30 a.m. the day of the accident. It passed Lockport, 93.7 miles north of Bloomington, at 1:00 p.m. Approximately 15 minutes later, while moving on the northward main track at 40 to 45 miles per hour, as estimated by the crew members, it neared the private road crossing located 2.3 miles south of Willow Springs. According to the engineer and front brakeman, the train had moved through patches of fog while en route from Bloomington, and their view was materially restricted on those occasions. They stated that the train began to emerge from another foggy area as it approached the private road crossing at one-fourth to one-half mile, and at this time they saw that a motortruck was stopped across the northward main track at the crossing. The engineer said he immediately applied the train brakes in emergency and began to sound the locomotive horn. A few seconds later, when its speed had been reduced to about 30 miles per hour, as estimated by the engineer, the train entered the crossing and struck the tank-type semitrailer of the motortruck, which was loaded with 5,939 gallons of flammable material. The semitrailer and its tank broke in two as a result of the impact and the cargo erupted into flames, causing the front portion of the train and all portions of the motortruck to catch on fire.

The engineer sustained burn injuries. The front brakeman jumped from the locomotive shortly after the collision and was injured.

On the day of the accident, the motortruck was driven to the chemical company plant in the northwest angle of the crossing, where two compartments of the semitrailer tank were loaded with 4,967 gallons of acetone having a flash point of zero degrees Fahrenheit, and one compartment was loaded with 972 gallons of amyl-acetate having a flash point of 69 degrees Fahrenheit. The motortruck then left the chemical company plant and proceeded on the private road toward the crossing involved. A minute or two

later, while moving eastward on the private road, it neared the crossing.

The driver stated that he stopped the motortruck short of the southward main track before he drove it onto the crossing. According to his statements, the engine of the tractor stalled as the motortruck was moving over the tracks, causing the vehicle to stop on the crossing with the rear of the semitrailer on the southward main track. The driver then depressed the starter in an attempt to restart the engine. However, the engine would not start, although the starter functioned properly. Realizing he could not start the engine, the driver released the brakes and placed the transmission in neutral gear with the intention of permitting the motortruck to roll eastward on the slightly descending grade at the crossing and clear of the tracks. The motortruck rolled a few feet eastward and stopped with the front end at the bottom of the descending grade and with the semitrailer across the northward main track. The driver then left his vehicle and ran back to the office of the chemical company plant to obtain assistance. On reaching the office, he explained the situation to the manager and employees of the plant.

The plant manager immediately started to telephone a representative of the railroad, to warn him about the motortruck stalled on the crossing. Meanwhile, the assistant plant manager left the office to drive his automobile to the crossing, and the truck driver and a few plant employees ran toward the crossing with a heavy tow line. While the truck driver and the plant employees were running to the crossing, they heard Extra 882A North approaching and heard the locomotive horn being sounded continuously. A few seconds later they saw the automatic crossing-warning signals at the crossing begin to function, and saw the crossing gates start to lower over the surface of the private road. The collision occurred soon afterward, while the truck driver and the plant employees with a tow line, were a considerable distance from the crossing.

The reason why the engine of the motortruck stalled at the crossing could not be determined. The investigation revealed, however, that on the day of the accident the tractor was making its first trip after mechanics had spent 51 hours 15 minutes working on it in the motor carrier's garage. Thus, it appears that the motortruck stalled on the crossing as a result of a mechanical failure of the tractor engine.

FINDINGS

The motortruck stopped before entering the crossing, then stalled on the crossing because of a defective engine condition. The collision apparently occurred about five to ten minutes later, after the driver left his vehicle unattended to seek assistance in removing it from the crossing. Because of foggy weather conditions, the engineer and front brakeman of Extra 882A North were unable to see the motortruck on the crossing until their train reached a point between one-fourth and one-half mile from the crossing. The engineer promptly applied the train brakes in emergency, but there was insufficient braking distance at this time for the train to stop short of the crossing, resulting in the collision.

CAUSE

This accident was caused by the motortruck stalling on the rail-highway grade crossing in front of the train, due to a defective condition of its engine.

*Dated at Washington, D. C., this 20th day
of June 1967.*

*By the Federal Railroad Administration,
Railroad Safety Board.*

(SEAL)

Bette E. Holt
Acting Executive Secretary

APPENDIX

Tracks

The main tracks are tangent 1.1 miles south and 569 feet north of the collision point. The grade in this area is practically level.

Private Road and Crossing

The road is surfaced with bituminous material to a width of 20 feet. From the west, it is tangent 200 feet to the crossing and a short distance eastward. It crosses the tracks at an angle of 90 degrees. The grade for eastbound vehicles on the road is, successively, 4.7 percent ascending 125 feet, 2.8 percent ascending 12 feet to the crossing, 0.6 percent descending over the crossing to a point 33 feet beyond, and 3.1 percent ascending 30 feet farther eastward.

The crossing is 30 feet wide and is in good condition. Planking is laid along the outside of each rail and between the rails of each track. The remaining area of the crossing is surfaced with bituminous material.

Railroad Crossing Warning Signals

An automatic crossing-warning signal of the flashing red-light type with a bell and crossbuck is located adjacent to the south side of the private road, 12 feet west of the southward main track. An automatic crossing gate 18 feet in length is attached to the mast of the crossing-warning signal. A similar crossing-warning signal and gate is adjacent to the north side of the private road, 12 feet east of the northward main track. The circuits are so arranged that when a northbound train on the northward main track reaches a point 3,939 feet south of the crossing, the bells and red lights of the crossing-warning signals start to function. Immediately thereafter, the gates start to lower.

Train

Extra 882A North consisted of diesel-electric units 882A, B74, B60 and 805A, coupled in multiple-unit control, diesel-electric

unit SAL 4031 in tow, 95 cars and a caboose. The train brakes had been tested and had functioned properly when used en route. The headlight was lighted. As the train approached the collision point the engineer and front brakeman, the only crew members on the locomotive, were in the control compartment at the front of the first diesel-electric unit, which was of the car-body type. The conductor and flagman were in the caboose.

Motortruck

The motor vehicle involved consisted of a 1961 GMC tractor of the cab-over-engine type and a 1960 Butler semitrailer of the tank type. The semitrailer tank had three compartments. The over-all length of the vehicle was about 57 feet. At the time of the accident, the tanks of the semitrailer were loaded with 4,967 gallons of acetone having a weight of 33,793 pounds, and with 972 gallons of amyl-acetate weighing 7,192 pounds. This cargo was destined for delivery at North Lake, Ill.

The motortruck was owned and operated by the Edward J. Myers Company, Inc., which holds no authority from the Interstate Commerce Commission to operate in interstate commerce. The transportation being performed at the time of the accident was intrastate in nature.

The driver was 31 years old and held a valid Illinois chauffeur's license, No. M-260-9223-6065. He had been employed by the motor carrier since October 17, 1966, and had about nine years experience driving vehicles similar to the one involved in the accident.

Damages

Extra 882A North stopped with the front end 1,130 feet north of the collision point. None of its equipment was derailed. The first three locomotive units were considerably damaged, and the other locomotive unit and first 10 cars were slightly damaged, as a result of the impact and subsequent fire.

The semitrailer of the motortruck was separated from the tractor and was broken-in-two. The front portion of the semitrailer stopped in the northeast angle of the crossing and adjacent to the north side of the private road. The rear portion stopped about 50 feet north of the collision point and on the structure of the

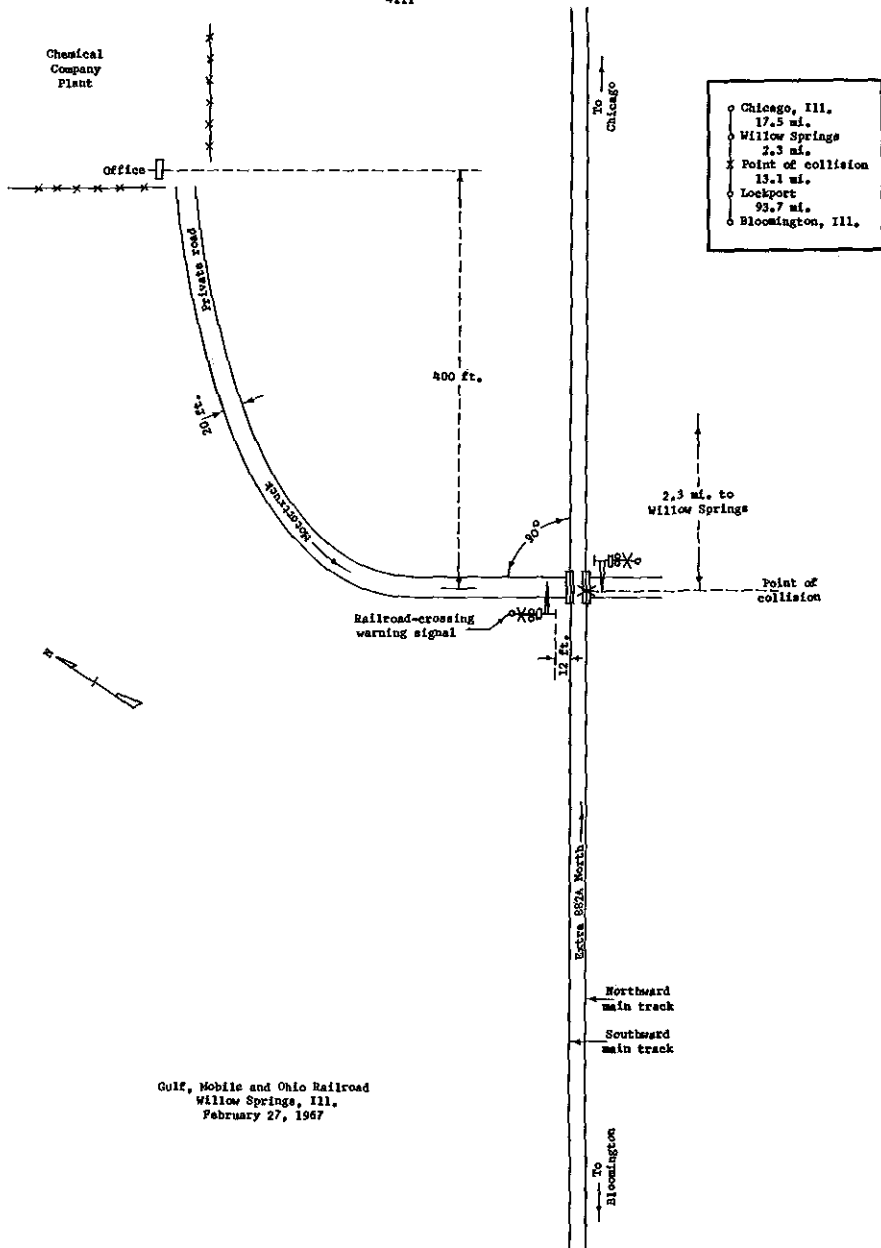
southward main track. The tractor, which was not struck by the train, stopped upright in a diagonal position on the private road immediately east of the crossing. The motortruck was destroyed as a result of the impact and fire.

Other Factors

The accident occurred about 1:15 p.m., under raining-snowing and foggy weather conditions.

The maximum authorized speed for freight trains in the accident area is 45 miles per hour.

According to their daily time returns, the crew members of the train had been continuously on duty 4 hours at the time of the accident. The engineer had previously been off duty 24 hours, and the conductor, front brakeman, and flagman had been off duty 8 hours.



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