

RAILROAD ACCIDENT INVESTIGATION

Report No 3817

MINNEAPOLIS, ST PAUL AND SAULT STE MARIE RAILROAD COMPANY

HAMEL, MINN

SEPTEMBER 15, 1958

INTERSTATE COMMERCE COMMISSION

Washington

SUMMARY

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DATE	September 15, 1958
RAILROAD	Minneapolis, St Paul and Sault Ste Marie
LOCATION	Hamel, Minn
KIND OF ACCIDENT	Derailment
TRAIN INVOLVED	Passenger
TRAIN NUMBER	13
LOCOMOTIVE NUMBER	Diesel-electric units 557 and 503B
CONSIST	15 cars
SPEED	58 m p h
OPERATION	Timetable and train orders
TRACK	Single, 3° curve, 0 15 percent descending grade westward
WEATHER	Clear
TIME	9 35 p m
CASUALTIES	7 injured
CAUSE	Malicious tampering with switch

INTERSTATE COMMERCE COMMISSION

REPORT NO 3817

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS UNDER
THE ACCIDENT REPORTS ACT OF MAY 6, 1910

MINNEAPOLIS, ST PAUL AND SAULT STE MARIE RAILROAD COMPANY

December 17, 1958

Accident at Hamel, Minn , on September 15, 1958, caused by malicious tampering with a switch

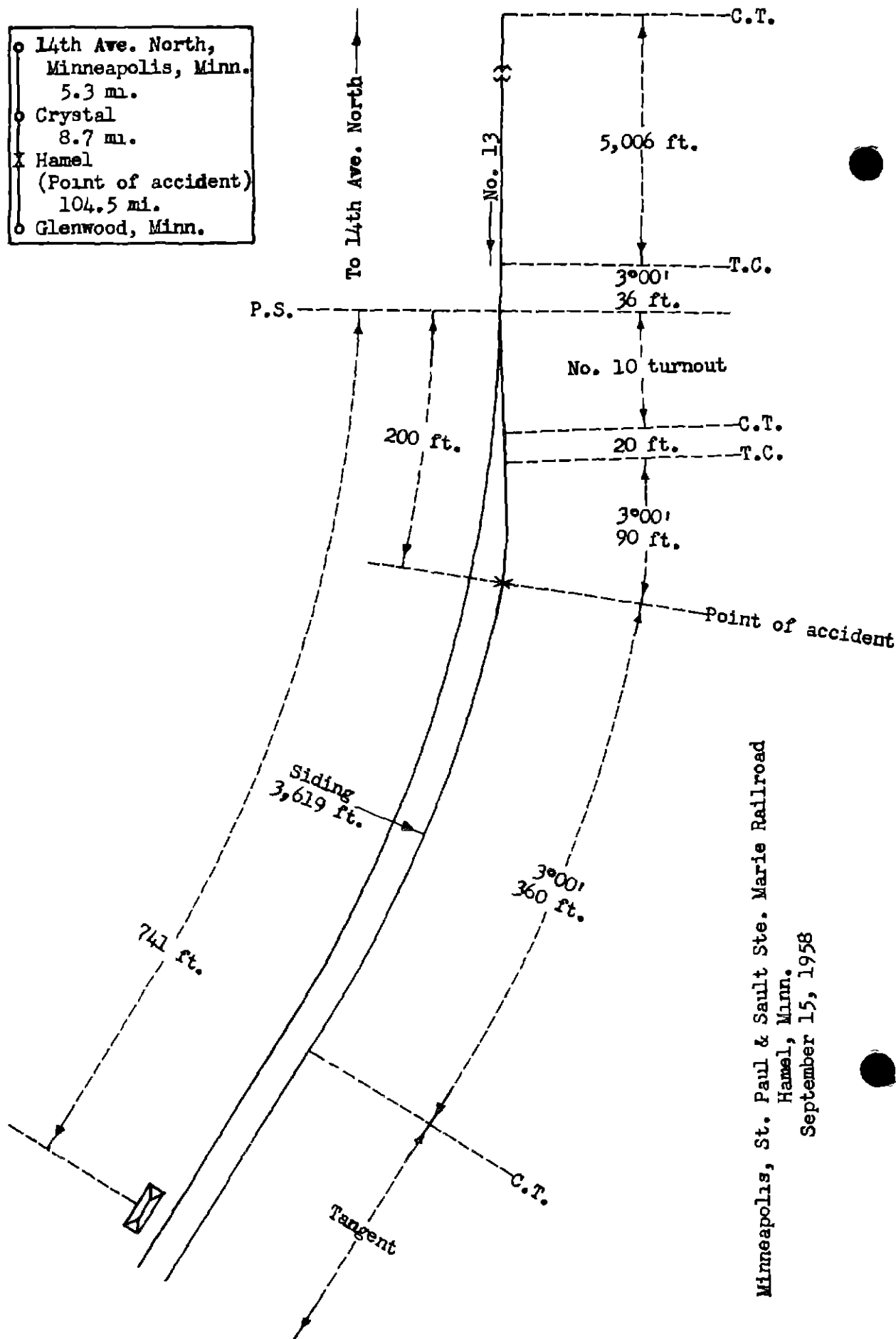
REPORT OF THE COMMISSION¹

TUGGLE, Commissioner

On September 15, 1958, there was a derailment of a passenger train on the Minneapolis, St Paul and Sault Ste Marie Railroad at Hamel, Minn , which resulted in the injury of 2 dining-car employees, 3 Pullman Company employees and 2 train-service employees

¹ Under authority of section 17 (2) of the *Interstate Commerce Act* the above-entitled proceeding was referred by the Commission to Commissioner Tuggle for consideration and disposition

- 14th Ave. North,
Minneapolis, Minn.
5.3 mi.
- Crystal
8.7 mi.
- ✕ Hamel
(Point of accident)
104.5 mi.
- Glenwood, Minn.



Minneapolis, St. Paul & Sault Ste. Marie Railroad
 Hamel, Minn.
 September 15, 1958

Location of Accident and Method of Operation

This accident occurred on that part of the Minnesota Division extending between 14th Ave North, Minneapolis, and Glenwood, Minn., 118.5 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. There is no block system in use. At Hamel, 14.0 miles west of 14th Ave North, a siding 3,619 feet in length parallels the main track on the south. The east switch of the siding is located 741 feet east of the station at Hamel. The accident occurred on the siding at a point 200 feet west of the east siding-switch. From the east on the main track and the siding there are, in succession, a tangent 5,006 feet in length, a 3°00' curve to the right 36 feet to the east siding-switch, a No. 10 turnout, a tangent 20 feet, and a 3°00' curve to the right 90 feet to the point of accident and 360 feet westward. In the vicinity of the point of accident the grade for westbound trains is 0.15 percent descending.

The track structure of the main track in the vicinity of the point of accident and of the siding throughout a distance of 117 feet west of the east siding-switch consists of 100-pound rail, 39 feet in length, laid new in 1953 on an average of 23 treated ties to the rail length. It is fully tieplated with double-shoulder tie plates, single-spiked, and is provided with 4-hole, 24-inch joint bars, and an average of 16 rail anchors per rail. It is ballasted with gravel to an average depth of 14 inches below the bottoms of the ties. The track structure of the siding west of a point 117 feet west of the east siding-switch consists of 80-pound rail, 33 feet in length, laid on an average of 18 treated ties to the rail length. It is fully tieplated, single-spiked, and is provided with 4-hole, 22-inch joint bars. It is ballasted with gravel to an average depth of 14 inches below the bottoms of the ties. The east turnout of the siding consists of 100-pound switch rails 16 feet 6 inches in length, a No. 10 spring-rail frog, and one-piece guard rails 9 feet in length.

The switch stand of the east switch of the siding is of the column-throw, intermediate-stand type and is located 9 feet 3 inches south of the centerline of the main track. A red circular target 18 inches in diameter is attached to the spindle. The center of the target is 4 feet 7-1/4 inches above the tops of the rails. A kerosene lamp is provided at the top of the spindle and is secured to the spindle by a bolt. When the switch is lined for entry to the siding the target is at right angles to the track and a red light is displayed for movements approaching from either direction. When the switch is lined for movement on the main track the target is parallel to the track and a green light is displayed for movements approaching from either direction. The operating handle is pivoted on a yoke secured to the spindle. A lug with a hole in the center for the application of a standard switch lock is provided near the end of the handle where it fits into the yoke by means of which the switch can be locked in either normal or reverse position.

The maximum authorized speed for passenger trains in the vicinity of the point of accident is 59 miles per hour.

Description of Accident

No. 13, a westbound first-class passenger train, consisted of diesel-electric units 557 and 503B, coupled in multiple-unit control, 6 baggage cars, 1 coach, 3 sleeping cars, 1 coach, 1 lounge car, 2 sleeping cars, and 1 coach, in the order named. The cars were of conventional all-steel construction. This train departed from the station at Minneapolis, 1.5 miles east of 14th Ave North, at 9:01 p. m., 21 minutes late, passed Crystal, the last open office, 5.3 miles west of 14th Ave North, at 9:24 p. m., was diverted to the siding at Hamel, and while moving at a speed of 58 miles

per hour, as indicated by the tape of the speed-recording device, the 2nd diesel-electric unit, and the 1st to the 9th cars, inclusive, were derailed at a point 200 feet west of the east switch of the siding.

Separations occurred at each end of the 2nd diesel-electric unit and at each end of the 2nd, 3rd, 6th, and 7th cars. The 1st diesel-electric unit stopped on the siding with the front end approximately 1,390 feet west of the point of derailment. The 2nd diesel-electric unit stopped on its left side with the front end approximately 460 feet west of the point of derailment. The front end of this unit was about 20 feet south of the siding and the rear end was on the track structure of the siding. The 1st car stopped upright, parallel to and approximately 10 feet south of the siding, with the front end 400 feet west of the point of derailment. The 2nd car stopped upright with the front end to the rear of the 1st car and the rear end on the track structure of the siding. The 3rd car stopped upright to the rear of the 2nd car with the front end on the track structure of the siding and the rear end 60 feet south of the siding. The 4th and 5th cars stopped in line on their right sides with the front end of the 4th car to the rear of the 3rd car and the rear end of the 5th car on the track structure of the siding. The 6th and 7th cars stopped upright across the main track and the siding. The 8th and 9th cars stopped upright, approximately in line, with the front end of the 8th car on the track structure of the main track and the rear end of the 9th car on the track structure of the siding. The 2nd diesel-electric unit was heavily damaged and the derailed cars were considerably damaged.

Two baggagemen of No. 13 were injured.

The weather was clear at the time of the accident, which occurred about 9:35 p. m.

The centers of gravity of the 1st diesel-electric unit of No. 13, a road-switcher type unit, and of the 2nd diesel-electric unit, a road type unit, are, respectively, 59.7 inches and 63.7 inches above the tops of the rails.

Discussion

As No. 13 was approaching the point where the accident occurred the speed was 58 miles per hour. The enginemen were in the control compartment of the 1st diesel-electric unit and were maintaining a lookout ahead. The conductor was in the 8th car, the front brakeman was in the 7th car, and the flagman was in the 15th car. The brakes of this train had been tested and had functioned properly when used en route. The headlight was lighted brightly and the oscillating white headlight was operating. Both the engineer and the fireman said that they did not observe the position of the switch points or of the target as the train was approaching the east siding-switch and that they did not observe whether the switch lamp was lighted. The engineer said that his view of the switch was obstructed by the front end of the locomotive. The fireman said that he was engaged in observing a rail-highway grade crossing west of the east siding-switch as the train was approaching the switch. The first the enginemen became aware of anything being wrong was when the locomotive rocked violently as it entered the turnout. The first the members of the train crew became aware of anything being wrong was when the derailment occurred.

Examination of the track structure after the accident occurred disclosed that there were no marks of derailment or of dragging equipment east of the east siding-switch.

Examination of the switch disclosed that it was lined and locked in position for movement from the main track to the siding. The switch lamp was not lighted. Fresh batter marks were found on the case of the lock near each end of the shackle indicating that the lock had been forced open by a person or persons unknown. Fresh batter marks were found on the bolt securing the lamp to the spindle indicating that an attempt had been made to remove the lamp apparently to alter its position on the spindle to cause the lamp to display an improper aspect.

A section foreman operated a track motorcar over the switch approximately 5 hours before the accident occurred. He said that the switch was lined for movement on the main track at that time. He did not observe whether the switch lamp was lighted. He said that it is the usual practice to refuel the lamp involved in the accident twice weekly and that the lamp was last refueled three days before the accident occurred.

It is evident that the train entered the turnout at a speed sufficient to cause the 2nd diesel-electric unit to overturn.

Cause

This accident was caused by malicious tampering with a switch.

Dated at Washington, D C this seventeenth
day of December, 1958

By the Commission, Commissioner Tuggle

Harold D McCoy,

Secretary

(SEAL)

Interstate Commerce Commission
Washington 25, D C
OFFICIAL BUSINESS
RETURN AFTER FIVE DAYS

POSTAGE AND FEES PAID
INTERSTATE COMMERCE COMMISSION



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