

RAILROAD ACCIDENT INVESTIGATION

Report No 3837

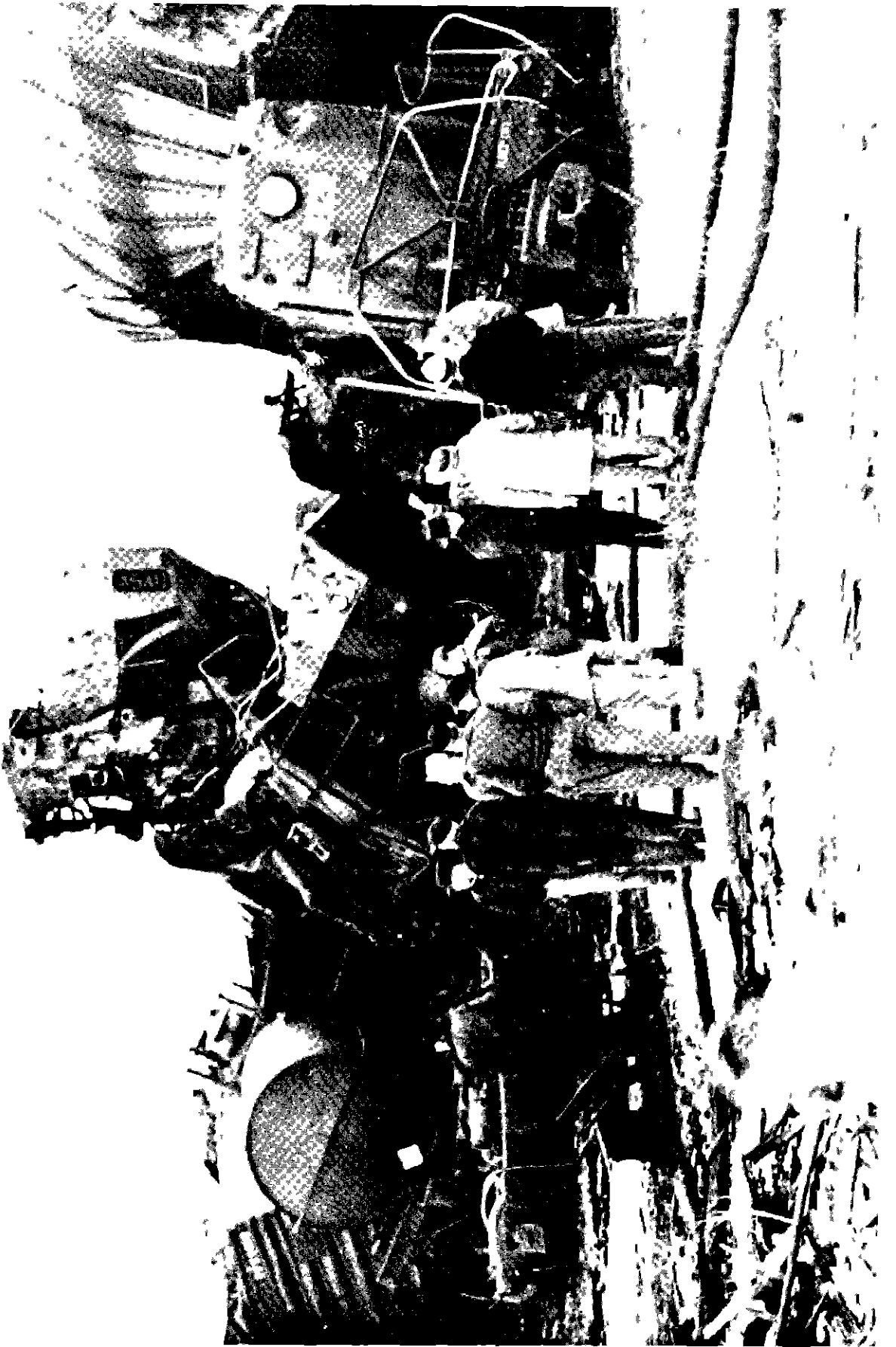
GRAND TRUNK WESTERN RAILROAD COMPANY

THORNTON JCT , ILL

JANUARY 13, 1959

INTERSTATE COMMERCE COMMISSION

Washington



SUMMARY

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DATE	January 13, 1959	
RAILROAD	Grand Trunk Western	
LOCATION	Thornton Jct , Ill	
KIND OF ACCIDENT	Head-end collision	
TRAINS INVOLVED	Freight	Freight
TRAIN NUMBERS	Yard movement	Extra 4541 West
LOCOMOTIVE NUMBERS	Diesel-electric unit 8026	Diesel electric units 4541 and 4540
CONSISTS	12 cars, caboose	43 cars, caboose
SPEEDS	3 m p h	40 m p h
OPERATION	Timetable, train orders, and automatic block-signal system	
TRACK	Double, tangent, level	
WEATHER	Clear	
TIME	1 20 p m	
CASUALTIES	1 killed, 4 injured	
CAUSE	Locomotive fouling main track immediately in front of approaching train	

INTERSTATE COMMERCE COMMISSION

REPORT NO 3837

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

GRAND TRUNK WESTERN RAILROAD COMPANY

June 11, 1959

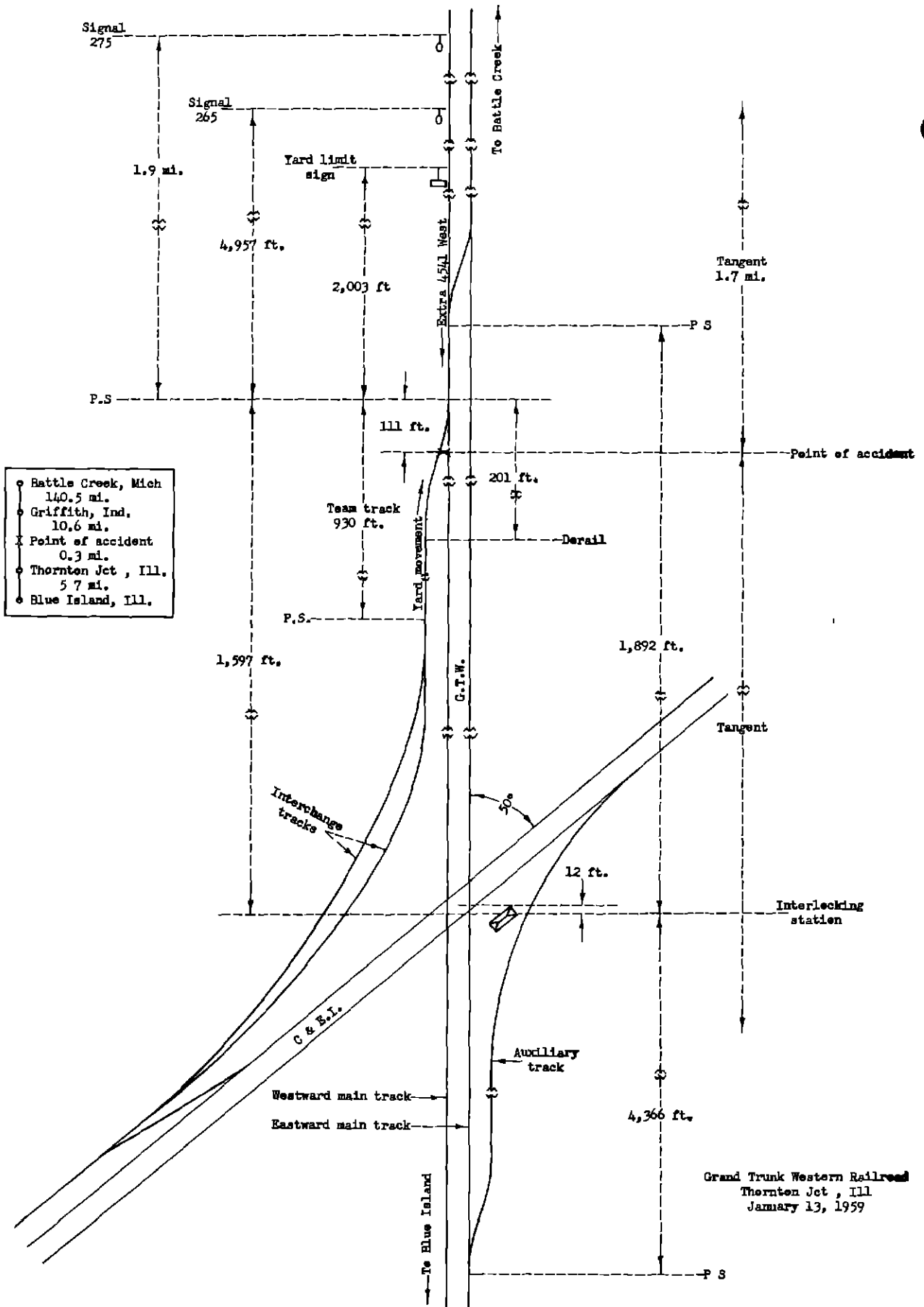
Accident at Thornton Jct , Ill , on January 13, 1959, caused by a locomotive fouling a main track immediately in front of an approaching train

REPORT OF THE COMMISSION¹

FREAS, Commissioner,

On January 13, 1959, at Thornton Jct , Ill , there was a head-end collision between a yard movement and a freight train on the Grand Trunk Western Railroad which resulted in the death of 1 train-service employee and the injury of 4 train-service employees

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



Location of Accident and Method of Operation

This accident occurred on that part of the South Bend Subdivision extending 157.1 miles westward from Battle Creek, Mich., to Blue Island, Ill., 19.5 miles east of Chicago. In the vicinity of the point of accident this is a double-track line over which trains are operated by timetable, train orders, and an automatic block-signal system. At Thornton Jct., Ill., 5.7 miles east of Blue Island, the main tracks of the Grand Trunk Western Railroad (G T W) are crossed at grade at an angle of about 50° by tracks of the Chicago and Eastern Illinois Railroad (C&EI). Movements over the crossing are controlled from an interlocking station located south of the G T W tracks and about 12 feet west of the center of the intersection. An auxiliary track diverges southward from the G T W eastward main track and connects with the C&EI tracks. The west switch of this auxiliary track is 4,366 feet west of the interlocking station. A crossover connects the G T W main tracks east of the intersection. The west switch of the crossover is trailing point for westbound movements on the westward main track and is located 1,892 feet east of the interlocking station. An auxiliary track known as the "Team Track," 930 feet in length, parallels the westward main track on the north. The east switch of the team track is located 1,597 feet east of the interlocking station. The west end of the team track connects with two interchange tracks that diverge northward and connect with the C&EI tracks. The G T W tracks between Blue Island and Thornton Jct. are within yard limits, and the east yard limit sign is located 2,003 feet east of the east switch of the team track.

The accident occurred within yard limits at the fouling point of the team track and the westward main track, 111 feet west of the east switch of the team track. From the east the main tracks are tangent 1.7 miles to the point of accident and a considerable distance westward. The grade is practically level.

The switch stand of the east switch of the team track is of the column-throw intermediate-stand type and is located 9 feet 1-3/4 inches north of the centerline of the westward main track. A red circular target 18 inches in diameter is attached to the spindle and an electric switch lamp is provided at the top of the spindle. When the switch is lined for entry to the team track, the target is at right angles to the track and a red light is displayed for movements on the westward main track. When the switch is lined for movements on the westward main track, the target is parallel to the track and a green light is displayed.

The team track is provided with a derailed at a point 201 feet west of the east switch.

The interlocking of the intersection is of the mechanical type. Automatic signals 275 and 265, governing westbound movements on the westward main track, are located, respectively, 1.9 miles and 4,957 feet east of the east switch of the team track. The signals are of the color-light type, approach lighted, and display three aspects. The aspects applicable to this investigation, and the corresponding indications and names are as follows:

Signal	Aspect	Indication	Name
275	Green	Proceed	Clear Signal
265			

The controlling circuits are so arranged that when the blocks of signals 275 and 265 are unoccupied with all switches in normal position for movement on the westward main track, and the route through the interlocking is unoccupied and lined for westbound movements on the westward main track, signals 275 and 265 will display "Green" aspects.

This carrier's operating rules read in part as follows

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* * * on double, three or more tracks all, except first and second class trains running with the current of traffic, must, unless otherwise directed, approach and move within yard limits prepared to stop unless the main track is seen or known to be clear

104 A train or engine must not foul a track until switches connected with the movement are properly lined, * * *

104a Derails on tracks other than the main track must be inspected and known to be in proper position before signals are given for movements to be made on tracks so equipped, and, except while such tracks are being used, the derails must be kept set and secured in derauling position whether or not there are cars on the track * * *

514 Where automatic block signals are in use, * * * before a train or engine enters on or fouls a main track, * * * all switches to be used must be open and then wait two 2) minutes before making engine or train movement, * * *

The maximum authorized speed for the freight train involved in the accident was 50 miles per hour

Description of Accident

About 12 35 p m, a yard movement consisting of switcher type diesel-electric unit 8026 with the control compartment at the east end, 6 cars and a caboose, departed eastbound on the eastward main track from Blue Island. It arrived at Thornton Jct at 1 00 p m, and after the six cars were placed on the auxiliary track located west of the interlocking station, the yard locomotive with caboose proceeded eastward to the crossover, crossed over to the westward main track about 1 10 p m, entered the team track at the east switch and proceeded to the west end, where switching operations were performed on the interchange tracks leading to the C&EI. After the yard movement entered the team track the east switch was restored to its normal position, lined for movements on the westward main track. The derail near the east end of the team track was left in non-derailing position. Following the switching operations the yard movement, then consisting of the locomotive, 12 cars and a caboose, proceeded eastward on the team track. About 1 20 p m, while moving at an estimated speed of 3 miles per hour, the yard locomotive fouled the westward main track at the east turnout of the team track and was struck by Extra 4541 West.

Extra 4541 West, a westbound freight train, departed from Battle Creek at 8 17 a m and stopped at Griffith, Ind, 10 9 miles east of Thornton Jct, at 12 30 p m. This train, consisting of road-switcher type diesel-electric units 4541 and 4540, coupled in multiple-unit control, 43 cars and a caboose, departed from Griffith at 1 03 p m, passed signals 275 and 265 which displayed "Green" aspects, passed the east switch of the team track at Thornton Jct, and while moving on the westward main track at an estimated speed of 40 miles per hour it struck yard locomotive 8026.

The locomotive and the 1st to the 3rd cars, inclusive, of the yard movement were derailed. The locomotive stopped upright north of the team track and about 100 feet west of the point of collision. It was heavily damaged. Separations occurred at both ends of the 1st and 2nd cars, and the three derailed cars stopped in various positions on or near the track structure. Two of the cars were destroyed and one was heavily damaged.

The locomotive and the 1st to the 19th cars, inclusive, of Extra 4541 West were derailed. Separations occurred between the diesel-electric units and at both ends of the 1st to the 17th cars, inclusive. The 1st diesel-electric unit stopped on its left side against yard locomotive 8026 and at right angles to the tracks. The 2nd unit stopped on its left side and on top of the 1st unit. Both diesel-electric units were heavily damaged. The derailed cars stopped in various positions on or near the track structure. Ten of the derailed cars were destroyed, 8 were heavily damaged, and 1 was slightly damaged.

The engineer of the yard movement was killed. The engineer, the fireman, the swing brakeman, and the front brakeman of Extra 4541 West were injured.

The weather was clear at the time of the accident, which occurred about 1 20 p m.

Discussion

After the locomotive with caboose entered the team track at Thornton Jct on the day of the accident it was moved westward to the interchange tracks, where switching operations were performed to assemble cars for transfer to the yard at Blue Island. The conductor said that after 12 cars and the caboose were assembled and coupled to the west end of the locomotive, he gave the engineer a hand signal to move eastward on the team track and stop short of the clearance point of the east switch. He said that he had previously informed the engineer of the movement of Extra 4541 West and had instructed the engineer and the brakemen to keep the yard movement clear of the westward main track until Extra 4541 West had passed Thornton Jct.

As the yard movement was approaching the point where the accident occurred at an estimated speed of 3 miles per hour, the engineer was in the control compartment of the locomotive, the conductor was in the caboose, and the rear brakeman was riding a side ladder on the north side of one of the cars. The front brakeman was in the vicinity of the crossover prepared to line the east switch of the team track for movement from the team track to the westward main track after the passage of Extra 4541 West. The fireman was at Blue Island, having been left behind when he was late in returning to the locomotive after the crew's lunch period, and the conductor and the brakemen were unaware of his absence. The brakes of the locomotive had functioned properly when used during previous switching operations on the day of the accident. As this movement moved eastward on the team track the rear brakeman alighted from the car on which he was riding and proceeded to walk eastward at a distance of about 20 feet from the north side of the movement. He said that shortly thereafter he observed Extra 4541 West approaching on the westward main track, and then saw that the yard locomotive had passed the team track derail located 201 feet west of the east switch. The rear brakeman thought that the engineer was maintaining a lookout to the front of the movement at this time and he attempted to warn the engineer by shouting, but the distance between him and the yard locomotive was too great for the warning shouts to be heard. He said that the collision occurred before he could take any further preventive action.

The front brakeman of the yard movement observed Extra 4541 West approaching and was unaware of anything being wrong until he heard prolonged warning blasts from the horn on the locomotive of the approaching train. He then looked westward and observed the yard locomotive slowly moving on the east turnout of the team track toward the westward main track. He said that the collision occurred immediately thereafter, before he could take any preventive action. He said that the engineer of the yard movement was in his assigned position and was facing westward at the time of the collision.

As Extra 4541 West was approaching the point where the accident occurred the speed was about 45 miles per hour. The enginemen were in the control compartment of the first diesel-electric unit, the front brakeman and the swing brakeman were in the control compartment of the second diesel-electric unit, and the conductor and the flagman were in the caboose. The brakes of the train had been tested and had functioned properly when used en route. The headlight was lighted.

The engineer of Extra 4541 West was seriously injured in the accident and could not be questioned during the investigation. The other members of the crew on the locomotive said that as the train approached Thornton Jct. they observed signals 275 and 265 displaying "Green" aspects, and that the lamp on the switch stand of the east switch of the team track also displayed a "Green" aspect. The enginemen first observed yard locomotive 8026 approaching the fouling point of the east switch of the team track at a distance of about 1,000 feet, and the front brakeman said that he observed the engineer on the yard locomotive facing westward. The engineer immediately applied the brakes in emergency and sounded the horn to warn the engineer on the yard locomotive, but the collision occurred before the speed of Extra 4541 West was materially reduced.

The conductor and the flagman of Extra 4541 West were unaware of anything being wrong until the brakes of the train were applied in emergency. The conductor estimated that the speed was approximately 40 miles per hour at the time of the collision.

After the accident occurred the undamaged portions of brake equipment of yard locomotive 8026 were tested and no defective condition was found.

This carrier's rules provide that all trains, except first and second class trains, running with the current of traffic on a double-track line, must, unless otherwise directed, approach and move within yard limits prepared to stop unless the main track is seen or known to be clear. Therefore, Extra 4541 West was required to approach the east yard limit sign at Thornton Jct., and move within yard limits prepared to stop unless the westward main track was seen or known to be clear. According to the carrier's interpretation of the rules, because Extra 4541 West was moving on signal indications which were not restrictive and the enginemen had observed the track ahead was clear, it was not required that this train be operated prepared to stop at the time the accident occurred.

This carrier's rules also provide that, where automatic block signals are in use, before a train or engine enters on or fouls a main track all switches to be used must be open and the train or engine then must wait two minutes before making the movement. The east switch of the team track was in normal position and lined for movement on the westward main track as Extra 4541 West approached. Under these circumstances the yard locomotive was required to remain clear of the fouling point at the east end of the team track. It is apparent that the yard movement entered the fouling circuit and fouled the westward main track while this switch was in normal position and after Extra 4541 West had passed signal 265.

During the investigation, the fireman of yard locomotive 8026 said that the engineer had been complaining of stomach trouble during the two-week period immediately preceding the date of the accident, and that the engineer did not feel well on the day of the accident. He also said that the engineer apparently was somewhat tired and appeared to have been dozing on one occasion while operating the yard locomotive earlier in the day. The fireman did not report this to any of the other members of the crew, who were unaware of the engineer's condition. Inasmuch as the engineer was killed in the accident, it could not be determined why he failed to stop the yard movement short of the clearance point of the team track and the westward main track.

Cause

This accident was caused by a locomotive fouling a main track immediately in front of an approaching train

Dated at Washington, D C , this eleventh
day of June, 1959

By the Commission, Commissioner Freas

(SEAL)

HAROLD D McCOY,

Secretary

Interstate Commerce Commission

Washington 25, D. C.

OFFICIAL BUSINESS

RETURN AFTER FIVE DAYS

POSTAGE AND FEES PAID
INTERSTATE COMMERCE COMMISSION

