

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3623
NORFOLK SOUTHERN RAILWAY COMPANY
IN RE ACCIDENT
NEAR MIDLAND, N. C., ON
MARCH 26, 1955

SUMMARY

Date: March 26, 1955
Railroad: Norfolk Southern
Location: Midland, N. C.
Kind of accident: Derailment
Train involved: Freight
Train number: 64
Engine number: Diesel-electric units 1510 and 1510
Consist: 21 cars, caboose
Estimated speed: 15 m. p. h.
Operation: Timetable and train orders
Track: Single; tangent; 1.1 percent
ascending grade northward
Weather: Cloudy
Time: 4:45 a. m.
Casualties: 2 killed
Cause: Collapse of a trestle which had been
weakened by fire

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3523

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

NORFOLK SOUTHERN RAILWAY COMPANY

May 18, 1955

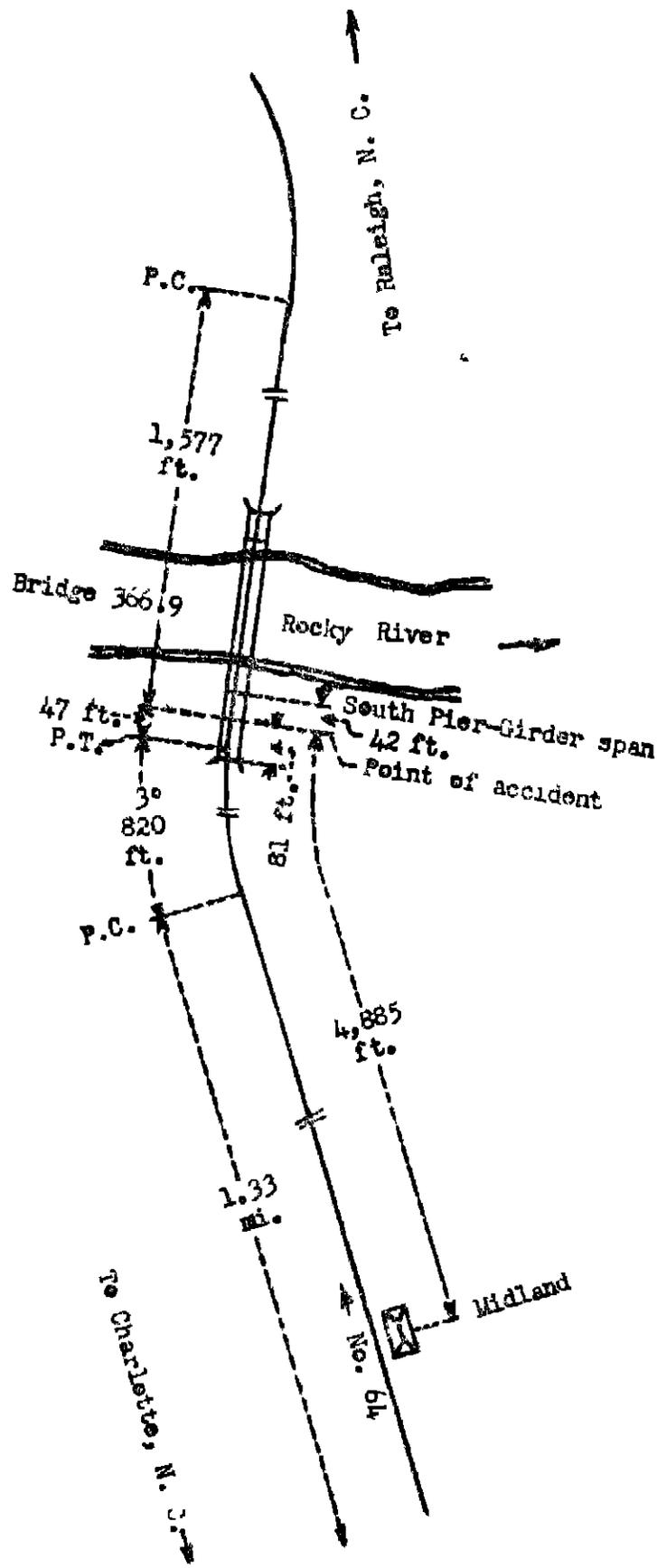
Accident near Midland, N. C., on March 26, 1955, caused by
collapse of a trestle which had been weakened by fire.

REPORT OF THE COMMISSION¹

CLARKE, Commissioner:

On March 26, 1955, there was a derailment of a freight train on the Norfolk Southern Railway near Midland, N. C., which resulted in the death of two train-service employees.

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



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|---|-------------------|-----------|
| ● | Raleigh, N. C. | 135.8 mi. |
| ✕ | Point of accident | 0.9 mi. |
| ● | Midland | 18.7 mi. |
| ● | Charlotte, N. C. | |

Report No. 3623
 Norfolk Southern Railway
 Near Midland, N. C.
 March 26, 1955

Location of Accident and Method of Operation

This accident occurred on that part of the railroad extending between Raleigh and Charlotte, N. C., 158.4 miles, a single-track line, over which trains are operated by timetable and train orders. There is no block system in use. The accident occurred at Bridge 366.9, which spans Rocky River, at a point 19.6 miles north of Charlotte, 4,866 feet north of the station at Midland, and 81 feet north of the south end of the south approach trestle. From the south there are in succession, a tangent 1.33 miles in length, a 3° curve to the right 820 feet, and a tangent 47 feet to the point of accident and 1,577 feet northward. The grade for north-bound trains is 1.1 percent ascending at the point of accident.

The track structure on Bridge 366.9 consists of 70-pound rail, 33 feet in length, laid new in 1913. It is single-spiked and is provided with 4-hole 24-inch joint bars.

From south to north, Bridge 366.9 consists of a 10-bent open-deck framed trestle approach 123 feet in length, a 3-span deck plate girder steel bridge 301 feet in length, supported on concrete piers, and a 5-bent open deck framed trestle approach 53 feet in length. Each bent of the south approach trestle consisted of two plumb posts and two batter posts, set on a batter of 1:4. These posts were of 12-inch by 12-inch material and rested on a 12-inch by 12-inch sill which was based on 12-inch by 12-inch blocking 5 feet in length. The bents were spaced on 13-foot 6-inch centers. The cap of each bent was of 12-inch by 12-inch material 14 feet in length. Two three-ply chords of 8-inch by 16-inch stringers were provided. Longitudinal and transverse bracing was of 3-inch by 10-inch material. This timber was all untreated fir. Bridge ties were of untreated white oak. They were 7 inches by 8 inches by 9 feet and were spaced on 14-inch centers. Outside each running rail a 5-inch by 8-inch treated pine guard rail was provided. This trestle was originally constructed in 1913 and last received major repairs

In 1954. The maximum height of the south approach trestle was 32 feet 6 inches. The normal river channel flows between the concrete piers, but in flood stage water flows under the trestle. At the time of the accident the river was confined within its banks and was about 2 feet deep.

The maximum authorized speed for freight trains is 30 miles per hour.

Description of Accident

No. 64, a north-bound second-class freight train, consisted of Diesel-electric units 1610 and 1510, coupled in multiple-unit control, 21 cars, and a caboose. This train departed from Charlotte at 3:45 a. m., 43 minutes late. While it was moving on the south approach trestle of Bridge 366.2 at a speed of about 15 miles per hour a portion of the trestle collapsed, and the rear truck of the first Diesel-electric unit, both trucks of the second Diesel-electric unit, and the first to the ninth cars, inclusive, were derailed.

The first Diesel-electric unit stopped approximately in line with the track, with the front end 177 feet north of the south end of the girder span. The second Diesel-electric unit and the first eight cars dropped to the ground. The second Diesel-electric unit stopped on its left side. The front end was in the river, about 40 feet north of the point of accident and east of the south pier of the bridge. The first eight cars stopped in various positions on the south bank of the river. The ninth car stopped on the north end of the remaining portion of the trestle. The first Diesel-electric unit was slightly damaged. The second Diesel-electric unit and the first to the sixth cars, inclusive, were destroyed. The seventh, eighth, and ninth cars were considerably damaged.

The conductor and the flagman were killed.

The weather was cloudy at the time of the accident, which occurred at 4:45 a. m.

Both Diesel-electric units were of the road-switcher type.

Discussion

As No. 64 was approaching the point where the accident occurred the speed was 33 miles per hour, as indicated by the tape of the speed-recording device. The engineer, the fireman, and the front brakeman were in the control compartment of the first Diesel-electric unit. The conductor and the flagman were in the control compartment of the second unit. The headlight was lighted brightly. The engineer said that as the locomotive was moving on the curve south of Bridge 366.9 he saw a small flickering blaze ahead, and when the locomotive reached a point about 450 feet south of the south end of the trestle he saw that the fire was on the trestle. He said that the blaze was small and he thought a bridge tie was burning near the west rail and about 50 feet north of the south end of the trestle. He made an emergency application of the brakes with the intention of stopping the train and extinguishing the fire. He said that the track and the trestle appeared to be undamaged, but as the first Diesel-electric unit was passing the burned portion the front end of the unit dropped slightly. The trestle collapsed as the first Diesel-electric unit was moving from the north end of the trestle onto the girder span. The engineer estimated that the speed had been reduced to about 15 miles per hour when the accident occurred. Both the fireman and the front brakeman said that the blaze appeared to be small. The brakeman stepped to the door and looked down immediately after the locomotive passed the fire. He said that at first he did not see fire at the lower part of the trestle but immediately after the derailment occurred fire flared up at that point.

The origin of the fire was not definitely determined during this investigation. When the trestle collapsed, the fuel tank of the first Diesel-electric unit struck the south end of the girder span and was punctured. The fuel tank of the second unit was ruptured when the unit dropped to the ground. Each of the tanks contained an estimated 375 gallons of fuel. This fuel became ignited and added to the intensity of the fire to the extent that after the fire was extinguished the amount of damage done by fire prior to the time No. 64 entered upon the trestle could not be determined. The stringers on the east side of the trestle between the fourth and fifth bents from the south end were charred. The fifth bent had

... damaged during the derailment, and the posts were charred throughout their entire length. The portion of the trestle between this bent and the south end of the girder span was completely demolished by derailed equipment.

The section foreman passed over Bridge 366.9 about 4 p. m. on the day before the accident occurred. He observed no unusual or defective condition of the bridge. No. 63, a south-bound freight train, passed over the bridge about 5 hours 45 minutes before the accident occurred. The crew of this train noticed no indications of fire nor of any defective condition of the bridge.

Cause

This accident was caused by the collapse of a trestle which had been weakened by fire.

Dated at Washington, D. C., this sixteenth day of May, 1955.

By the Commission, Commissioner Clarke.

(SEAL)

HAROLD D. McCOY,
Secretary.