

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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REPORT NO. 3540  
YADKIN RAILROAD COMPANY  
IN RE ACCIDENT  
NEAR GRANITE QUARRY, N. C., ON  
JULY 13, 1950

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SUMMARY

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Date: July 13, 1950

Railroad: Yadkin

Location: Granite Quarry, N. C.

Kind of accident: Derailment

Train involved: Freight

Train number: Extra 585-661 South

Engine numbers: 585 and 661

Consist: 9 cars, caboose

Estimated speed: 25 m. p. h.

Operation: Timetable and train orders

Track: Single; 5° curve; 0.45 percent ascending grade southward

Highway: Tangent; crosses track at angle of 80°08'; 4 percent descending grade westward

Weather: Clear

Time: 12:01 p. m.

Casualties: 4 killed; 1 injured

Cause: Obstruction on track

INTERSTATE COMMERCE COMMISSION

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REPORT NO. 3340

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

YADKIN RAILROAD COMPANY

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August 31, 1950

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Accident near Granite Quarry, N. C., on July 13, 1950,  
caused by an obstruction on the track.

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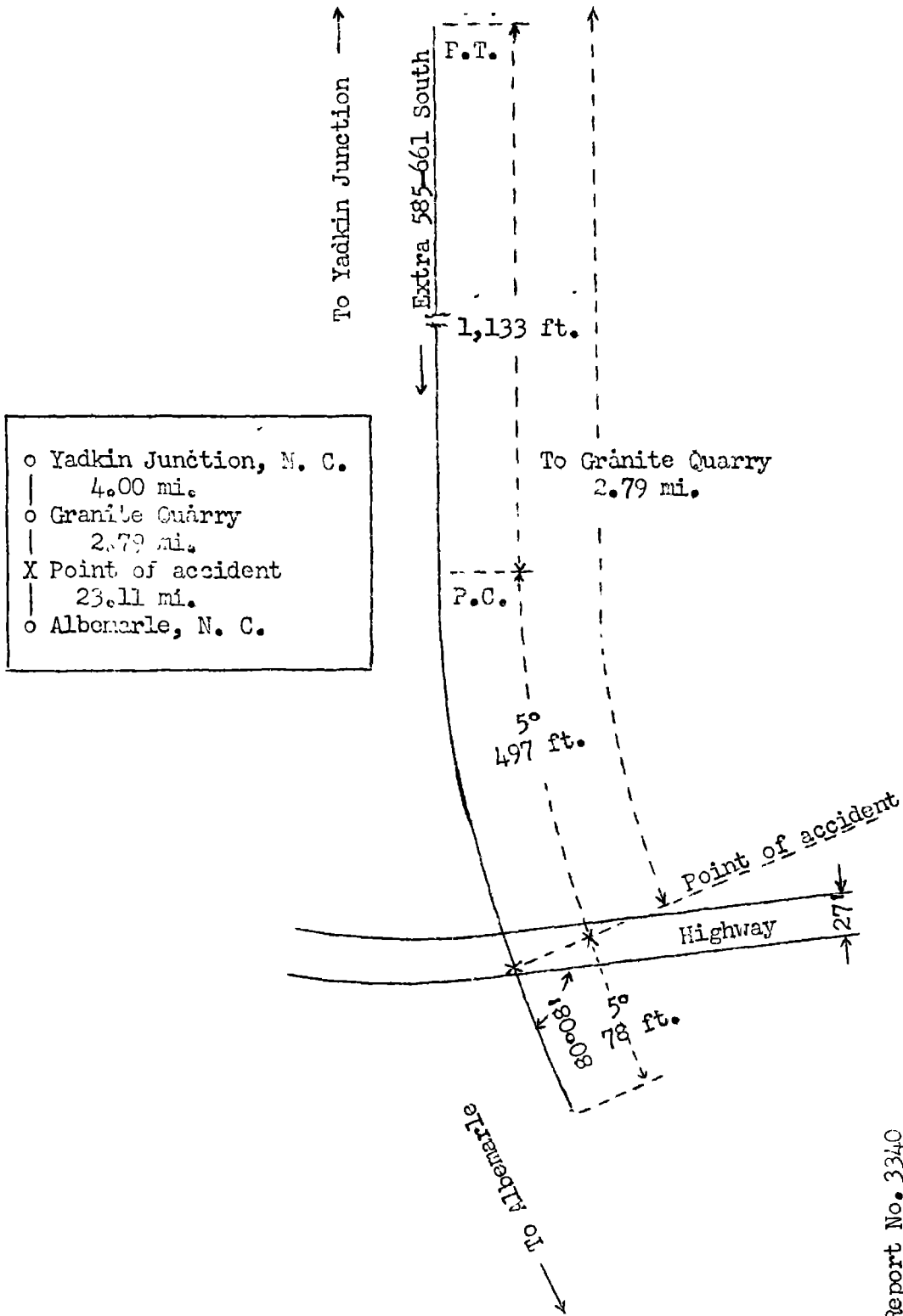
REPORT OF THE COMMISSION<sup>1</sup>

PATTERSON, Commissioner:

On July 13, 1950, there was a derailment of a freight train on the Yadkin Railroad near Granite Quarry, N. C., which resulted in the death of four employees and the injury of one employee.

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<sup>1</sup> Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Report No. 3340  
Yadkin Railroad  
Granite Quarry, N. C.  
July 13, 1950

Location of Accident and Method of Operation

This accident occurred on that part of the railroad extending between Yadkin Junction and Albemarle, N. C., 29.9 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 on the main track at a rail-highway grade-crossing 6.79 miles south of Yadkin Junction and 2.79 miles south of the station at Granite Quarry. From the north there is a tangent 1,133 feet in length and then a 5° curve to the left 497 feet to the point of accident and 78 feet southward. Throughout a distance of 3,000 feet immediately north of the point of accident the grade averages 0.45 percent ascending southward.

The track structure consists of 85-pound relay rail, 33 feet in length, laid on an average of 20 ties to the rail length. It is single-spiked, 80 percent tieplated, and is provided with 4-hole 24-inch joint bars. It is ballasted with cinder ballast to a depth of 8 inches under the ties. At the point where the accident occurred the specified superelevation is 3 inches and the gage is 4 feet 8-3/4 inches.

The highway intersects the railroad at an angle of 80°08'. It is 27 feet in width and is unimproved. It is tangent throughout a considerable distance immediately east of the crossing and curves slightly toward the north immediately west of the crossing. Between points 100 feet east and 100 feet west of the crossing the grade averages 4 percent descending westward. The surface of the crossing is level with the tops of the rails. Flangeway guards are not provided.

The maximum authorized speed for freight trains was 25 miles per hour.

Description of Accident

Extra 585-661 South, a south-bound freight train, consisted of engines 585 and 661, 9 cars and a caboose, in the order named. This train departed from Granite Quarry, the last open office, at 11:48 a. m., and while it was moving at an estimated speed of 25 miles per hour both engines and their tenders, the first two cars, and the front pair of wheels of the front truck of the third car were derailed at a rail-highway grade-crossing 2.79 miles south of Granite Quarry.

The first engine and its tender remained coupled and stopped on their right sides at the foot of a 7-foot embankment, west of the track and parallel to it. The front end of the engine was 204 feet south of the point of derailment and 18 feet 10 inches west of the track. The engine and the tender were badly damaged. The tender of the first engine became separated from the second engine. There was no separation between the other units of the train. The second engine stopped upright and in line with the track, with the front end of the engine 162 feet south of the point of derailment. It was somewhat damaged. The derailed cars stopped in line with the track and were not damaged.

The engineer of the first engine, the conductor, the front brakeman, and the flagman were killed. The fireman of the first engine was injured.

The weather was clear at the time of the accident, which occurred about 12:01 p. m.

Engine 585 is of the 2-3-0 type. The total weight in working order is 199,910 pounds, distributed as follows: Engine truck wheels, 19,300 pounds; and driving wheels, 180,610 pounds. The specified diameters of the engine-truck and driving wheels are, respectively, 33 inches and 57 inches. The rigid wheelbase is 16 feet, the total wheelbase is 24 feet 3-1/2 inches, and the total length of the engine and its tender is 66 feet 4-7/8 inches.

#### Discussion

As Extra 585-601 South was approaching the point where the accident occurred the speed was about 25 miles per hour. The engineer of the first engine was maintaining a lookout ahead from his position in the cab, the conductor, the front brakeman, and the fireman were on the deck of the engine, and the flagman was seated on the fireman's seat. The engineer and the fireman of the second engine were maintaining a lookout ahead from their positions in the cab of that engine. The brakes of the train had been tested and had functioned properly when used en route. The fireman of the first engine said that as the engine closely approached the crossing he observed that the rails through the crossing were covered by a deposit of earth. He called a warning, but the derailment occurred before the engineer could take action to stop the train. The fireman of the second engine said that he first observed the deposit of earth when the first engine was entering the crossing. The engineer of the second engine could not see the crossing from the right side of the engine.

These employees said that the engines were riding smoothly and there was no indication of defective track or equipment before the train entered the crossing.

After the accident occurred, examination disclosed that between the south side of the crossing and a point 8 feet northward the crossing was covered by a deposit of earth about 4-1/2 inches higher than the tops of the rails. About 1/2 inch of compressed earth remained on the tops of the rails after the two engines and the first two cars of Extra 585-661 South passed over the crossing. The first mark of derailment was a flange mark beginning on the gage side of the west rail at the south side of the crossing and extending diagonally across the top of the rail a distance of 4 feet 6 inches to the outside of the rail. Immediately south of this point ties bore marks indicating that one pair of wheels had become derailed to the west. These marks continued diagonally westward a distance of 42 feet to the point where the general derailment occurred.

Apparently when the first engine of Extra 585-661 South passed over the crossing the earth was of sufficient depth to cause the flanges of the engine-truck wheels to rise above the level of the tops of the rails. Then, because of track curvature to the left, the right engine-truck wheel crossed over the west rail and dropped outside that rail. Examination of the track throughout a distance of about 2,000 feet immediately north of the point of derailment disclosed that the alignment, gage and surface were well maintained for the maximum authorized speed. There was no indication of dragging equipment. Examination of the engines and cars of Extra 585-661 South after the accident occurred disclosed no condition that could have caused or contributed to the cause of the accident.

The appearance of the earth on the crossing indicated that it had been deposited there by a road-grader which was working in that vicinity. This road-grader was surfacing the highway adjacent to the crossing during a period of about 1 hour 30 minutes before the accident occurred. It was equipped with a blade 12 feet in length and 18 inches in depth, and was in charge of an experienced operator. The operator said that he had not been instructed concerning the operation of the grader over rail-highway grade-crossings, but he said he knew that material should not be left on the rails. He had driven the grader across the track several times before the accident occurred, and at the time of the accident he was engaged in spreading earth on the north side of the

highway immediately east of the crossing. A road-roller, which also was being operated in the vicinity of the crossing, was driven across the track several times before the accident occurred. There were no other roadway machines being operated in that vicinity. The operators of the grader and the roller said that until after the accident occurred neither was aware that an excessive amount of earth had been deposited on the crossing.

The section foreman inspected the crossing about 3 hours 20 minutes before the accident occurred. He said that the crossing was in good condition at that time. The engineer of a south-bound freight train which passed the crossing about 1 hour 50 minutes before the accident occurred said that the engine rode smoothly over the crossing and he did not observe any unusual condition.

Cause

It is found that this accident was caused by an obstruction on the track.

Dated at Washington, D. C., this thirty-first day of August, 1950.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,  
Secretary.