INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3461

THE BALTIMORE AND OHIO RAILROAD COMPANY

IN RE ACCIDENT

NEAR KINGMONT, W. VA., ON

APRIL 5, 1952

SUMMARY

Date:	April 5, 1952
Railroad:	Baltimore and Ohio
Location:	Kingmont, W. Va.
Kind of accident:	Derailment
Train involved:	Passenger
Train number:	66
Engine number:	5041
Consist:	3 cars
Speed:	33 m. p. h.
Operation:	Signal indications
Track:	Single; 5°40' curve; 0.17 percent ascending grade eastward
Weather:	Cloudy
Time:	2:20 p. m.
Casualties:	1 killed; 6 injured
Cause:	Broken rail

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3461

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

THE BALTIMORE AND OHIO RAILROAD COMPANY

May 23, 1952

Accident near Kingmont, W. Va., on April 5, 1952, caused by a broken rail.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On April 5, 1952, there was a derailment of a passenger train on the Baltimore and Ohio Railroad near Kingmont, W. Va., which resulted in the death of one train-service employee, and the injury of two passengers and four train-service employees.

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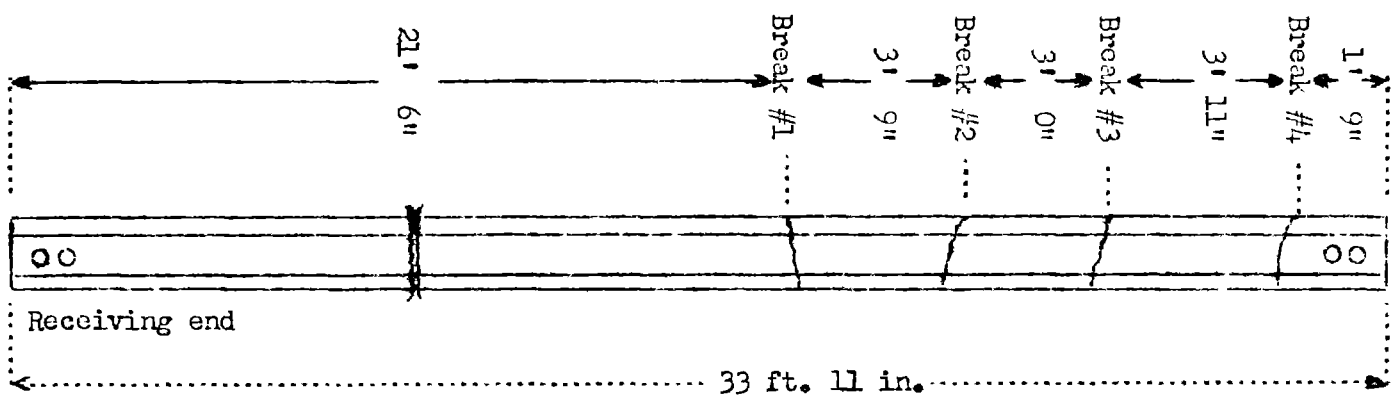
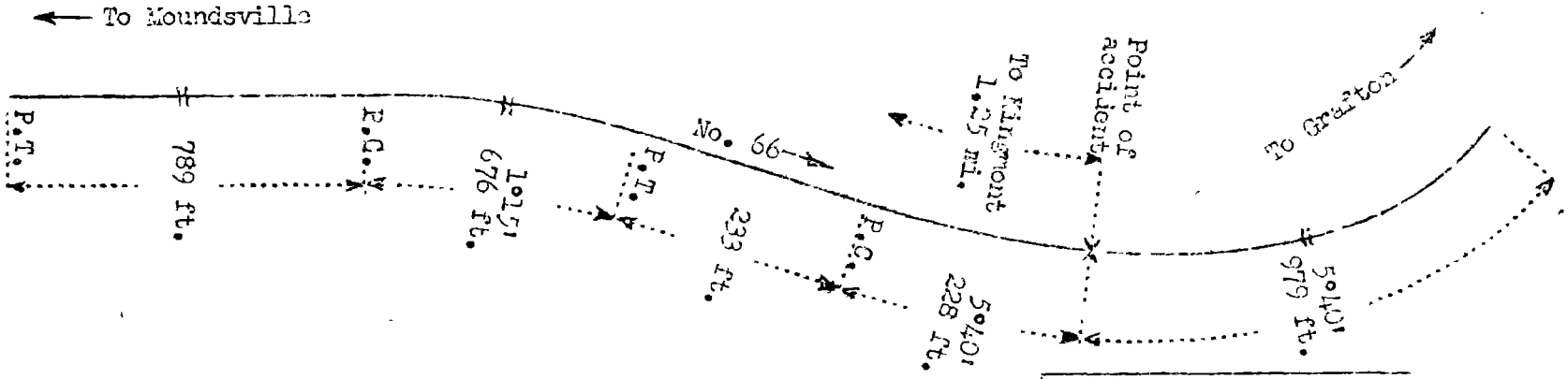
[1] Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Sketch showing broken rail - south side of track



Report No. 3461
Baltimore and Ohio Railroad
Kingmont, W. Va.
April 5, 1952

- Grafton, W. Va. 17.35 mi.
- X Point of accident 0.65 mi.
- RF Tower 0.60 mi.
- Kingmont 3.50 mi.
- Fairmont 66.70 mi.
- Moundsville, W. Va.

Location of Accident and Method of Operation

This accident occurred on that part of the Monongah Division extending between Moundsville and Grafton, W. Va., 88.8 miles. In the vicinity of the point of accident this is a single-track line, over which trains are operated by signal indications. The accident occurred on the main track at a point 71.45 miles east of Moundsville and 1.25 miles east of the station at Kingmont. From the west there are, in succession, a tangent 789 feet in length, a 1°15' curve to the right 676 feet, a tangent 233 feet, and a 5°40' curve to the left 228 feet to the point of accident and 979 feet eastward. The grade is 0.17 percent ascending eastward at the point of accident.

At the point of derailment the track is laid on a fill about 9 feet in height. The track structure consists of 130-pound head-free rail, generally 39 feet in length, rolled in 1930, first laid in 1931 and relaid in 1944 on an average of 22 creosoted ties to the rail length. It is fully tieplated, single-spiked, provided with 4-hole 24-inch joint bars, and an average of 4 rail anchors per rail length. It is ballasted with cinders to a depth of 12 inches below the bottoms of the ties.

The maximum authorized speed for passenger trains is 40 miles per hour.

Description of Accident

No. 66, an east-bound first-class passenger train, consisted of engine 5041, a 4-6-2 type, one baggage-mail car, one passenger-baggage car and one coach, in the order named. All cars were of conventional steel construction. None of the cars was equipped with tightlock couplers. This train departed from Fairmont at 2:06 p. m., 11 minutes late, passed BF Tower, the last open office, 0.65 mile west of the point of accident, at 2:17 p. m., 10 minutes late, and while moving at a speed of 33 miles per hour the entire train was derailed at a point 1.25 miles east of the station at Kingmont.

A separation occurred between the tender and the first car. The engine and tender overturned to the right and stopped parallel to and 5 feet south of the track and 361 feet east of the point of derailment. The first car stopped 51 feet west of the tender, with the east end 10 feet and the west end 6 feet south of the track. It leaned to the south at an angle of 60 degrees. The second car stopped with the east end 6 feet south of the track and the west end on the

track structure. It leaned to the south at an angle of 45 degrees. The third car stopped on the track structure and 15 feet east of the point of derailment. The car leaned slightly to the south. The engine and the three cars were slightly damaged.

The engineer was killed. The conductor, the fireman, the baggageman and the flagman were injured.

It was cloudy at the time of the accident, which occurred at 2:30 p. m.

Discussion

No. 66 was moving on a 5°40' curve to the left, at a speed of 33 miles per hour, in territory where the maximum authorized speed was 40 miles per hour, when the derailment occurred. The brakes of this train had been tested and had functioned properly when used en route. The engineer and the fireman were maintaining a lookout ahead from their respective positions in the cab of the engine. The fireman said that the engine was riding smoothly before the derailment occurred. He said that the engine lurched as it entered the curve on which the accident occurred. He observed sparks from the wheels of the cars and immediately called a warning to the engineer. He thought the engine was not derailed before it overturned. The baggageman was in the first car and the flagman was in the second car. They said that the cars were riding smoothly before the derailment occurred. When the derailment occurred each attempted to open the conductor's valve but the cars partially overturned before they could take effective action.

Examination of the equipment of No. 66 disclosed no condition which would have caused or contributed to the cause of the derailment. Examination of the track structure disclosed no indication of dragging equipment nor of an obstruction having been on the track. The surface, gage and alinement were adequately maintained for the maximum authorized speed in this territory.

After the accident occurred, a broken rail was found on the south side of the track at the point of derailment. This rail originally was 39 feet long, but a piece 5 feet 1 inch long had been cut from one end and a piece of the same length cut from another rail had been substituted. The 33-foot 11-inch rail involved was broken into five pieces, all of which were recovered. Breaks occurred at points 21 feet 6 inches, 25 feet 3 inches, 28 feet 3 inches, and 32 feet 2 inches from

the receiving end of the rail. The first piece of rail remained in place and bolted to the adjoining rail west of the point of accident. The rail ends at the first and second breaks were slightly battered. Apparently the other breaks occurred during the derailment of No. 66. At the first break there was a driving-wheel burn on the top of the rail. Under this driving-wheel burn there was a progressive fracture which covered about 50 percent of the cross-sectional area of the head of the rail, and a portion of the head of the rail about 2-1/2 inches in length, 1-1/4 inches in width, and 3/4 inch in depth had shelled out on the gage side of the rail. There were no driving-wheel burns on the head of the rail at the other breaks or on the north rail opposite the first break. A split head was found at the west end of the fourth piece. This split had not progressed materially. There were no marks on the tires of the driving wheels of the engine to indicate that the engine had been derailed before it overturned. The flanges of the right front wheel of each truck of the first car and the front truck of the second car bore marks indicating that they had been in contact with the track structure after they were derailed. Apparently, the rail broke under the driving wheels of the engine and the wheels of the front truck of the tender dislodged the second piece of rail.

The rail involved was rolled by the Maryland Steel Company in June, 1930, and bore heat number 74304A24. This rail was in the medium range with a chemical composition of carbon, 0.84 percent; phosphorus, 0.013 percent; manganese, 0.59 percent; silicon, 0.26 percent; and sulphur, 0.030 percent. It originally was 39 feet in length, but because of a separation between the head and the web near a bolt hole, a piece 5 feet 1 inch in length had been cut from one end. A rail-defect detector car was last operated over this territory on November 6, 1951, at which time 10 defective rails were found within the mile of track on which this accident occurred.

The track supervisor last inspected the track in this vicinity 2 days before the accident occurred, and no defective condition was observed. This section of the track was last inspected by the section foreman the day before the accident occurred. He saw the engine burn and made a close inspection of the rail, but there was no evidence of the rail cracking out along the gage side of the head; he considered that it was only a minor burn and there was no visible evidence of impending trouble.

Cause

It is found that this accident was caused by a broken rail.

Dated at Washington, D. C., this twenty-third day of May, 1952.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,

Secretary.