INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2616

THE CANADIAN PACIFIC RAILWAY COMPANY

REPORT IN RE ACCIDENT

NEAR STEVENS MILLS, VT., ON

AUGUST 16, 1942

SUMMARY

Railroad:	Canadian Pacific
Date:	August 16, 1942
Location:	Stevens Mills, Vt.
Kind of accident:	Derailment
Train involved:	Freight
Train number:	903
Engine numbers:	872-1078
Consist:	44 cars, caboose
Speed:	20-25 m. p. h.
Operation:	Timetable and train orders
Track:	Single; tangent; vertical curve
Weather:	Raining
Time:	About 7:20 p. m.
Casualties:	2 killed; 4 injured
Cause:	Accident caused by washout

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2616

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

THE CANADIAN PACIFIC RAILWAY COMPANY

October 7, 1942.

Accident near Stevens Mills, Vt., on August 16, 1942,
caused by washout.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On August 16, 1942, there was a derailment of a freight train on the Canadian Pacific Railway near Stevens Mills, Vt., which resulted in the death of two employees and the injury of four employees.

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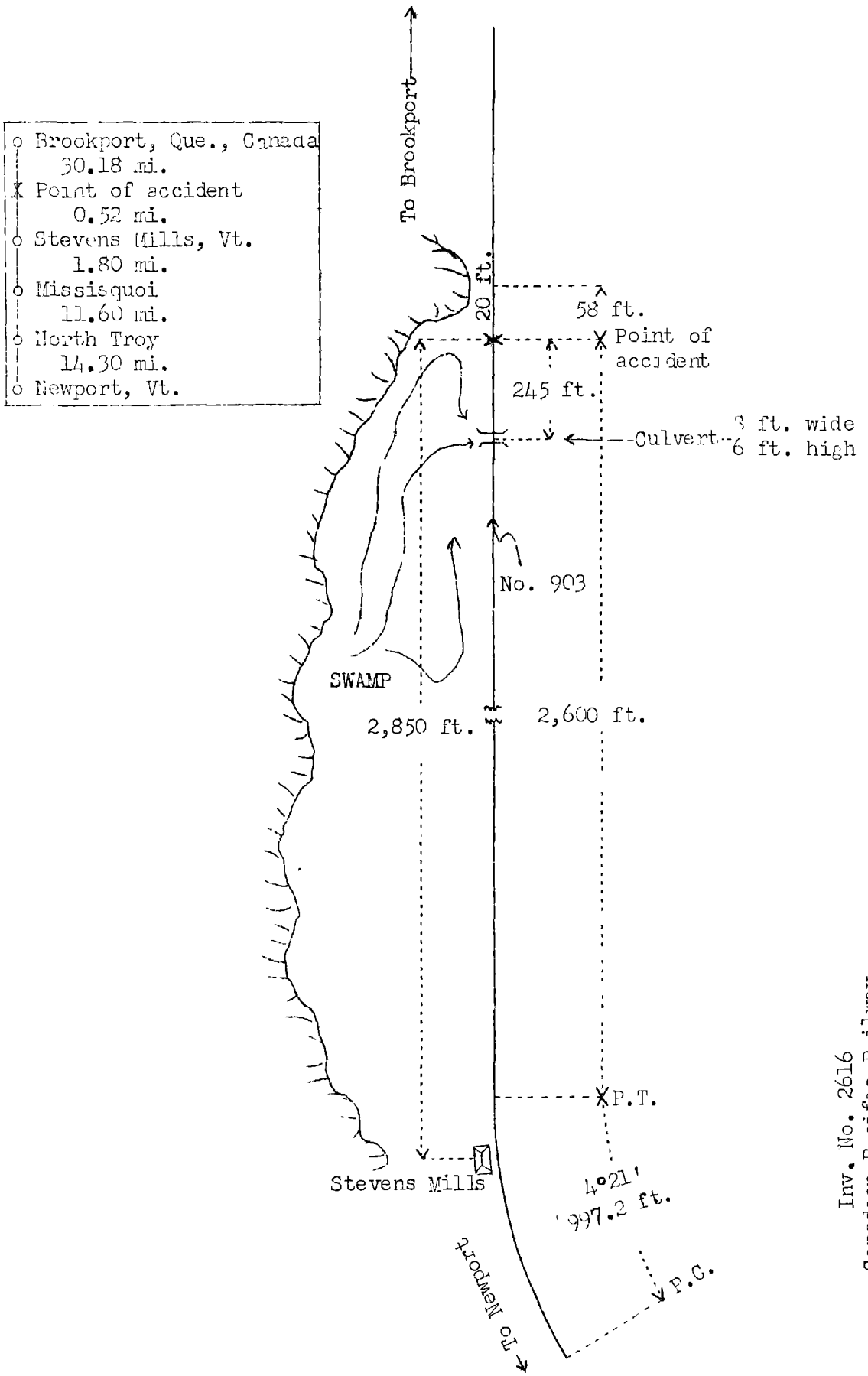
[1]Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Inv. No. 2616
Canadian Pacific Railway
Stevens Mills, Vt.
August 1942

Location of Accident and Method of Operation

This accident occurred on that part of the Quebec District designated as the Newport Sub-division and extending between Newport, Vt., and Brookport, Quebec, Canada, a distance of 58.4 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. The accident occurred on the main track at a point 2,850 feet north of the station at Stevens Mills. As the point of accident is approached from the south there is a 4°21' curve to the right 997.2 feet in length, which is followed by a tangent 2,563 feet to the point of accident. The grade for north-bound trains varies between 0.44 and 0.91 percent descending throughout a distance of 3,000 feet, and then there is a vertical curve 70 feet to the point of accident and 850 feet beyond.

The track structure consists of 100-pound rail, 39 feet in length, rolled in August, 1939, and laid on 19 ties to the rail length; it is fully tieplated, double-spiked, and is provided with 12 rail anchors per rail length. The track is ballasted with gravel to a depth of 7 inches.

Throughout a distance of about 1,900 feet immediately south of the point of accident, a swamp, which is about 1,900 feet long and 400 feet wide, lies to the west of the track. Water from a range of hills drains into this swamp. At the north end of the swamp, the hillside is at an angle of about 30 degrees to the track, and at a point about 58 feet north of the point of accident it is about 10 feet high and 20 feet horizontally distant from the track. Throughout a distance of about 1,750 feet south of the point of accident and extending to a point about 60 feet north of the point of accident, the track is laid on a fill which averages 7 feet in height and 19 feet in width at the top. Accumulated water drains from the swamp through a masonry culvert which is 6 feet high and 8 feet wide and is located at a point 245 feet south of the point of accident.

Maintenance-of-Way Rules and Instructions read in part as follows:

> 160. The Section Foreman and such of his forces as he considers necessary must take every precaution to prevent accidents during heavy wind, snow or rain storms and freshets or high water, whether by day or by night, and must go over his section to make sure that the track is safe. During heavy rain storms all water ways must be carefully watched.

In the vicinity of the point of accident the maximum authorized speed for freight trains is 40 miles per hour.

Description of Accident

No. 903, a north-bound third-class freight train, consisted of engines 872 and 1078, coupled, 42 loaded and 2 empty cars and a caboose. This train departed from Newport, 27.7 miles south of Stevens Mills, at 6:05 p. m., according to the dispatcher's record of movement of trains, 3 hours 35 minutes late. At North Troy, 13.4 miles south of Stevens Mills and the last open offi[illegible] the crew received a message reading as follows:

> Culvert at Mileage 32 reported washing out. Please approach this point cautiously expecting to be flagged.

This train departed from North Troy at 6:46 p. m., 3 hours 35 minutes late, and at Missisquoi, 1.8 miles south of Stevens Mills, it was flagged by a section foreman. After the crew was warned about flood conditions, the train proceeded at a speed of about 5 miles per hour over the track mentioned in the message. After this section of track had been traversed the speed of the train was gradually increased, and while moving at an estimated speed of 20 to 25 miles per hour the train was derailed at a point 2,850 feet north of the station at Stevens Mills.

Both engines were derailed to the west and stopped, considerably damaged, on their left sides with the front end of the first engine at a point 247 feet north of the point of derailment. The cab of the first engine was demolished. The first 16 cars were derailed and stopped in various positions across the track and on each side of it. Of these cars, 10 were demolished and 6 were badly damaged.

It was raining at the time of the accident, which occurred about 7:20 p. m.

The employees killed were the two firemen. The employees injured were the two engineers, the conductor and the flagman.

Data

After the accident, it was found that 58 feet of track was washed out.

Discussion

No. 903 was moving on tangent track at a speed of 20 to 25 miles per hour in territory where the maximum authorized speed for freight trains is 40 miles per hour. When this train reached a point 2,850 feet north of the station at Stevens Mills both engines and the first 16 cars were derailed at a washout.

The train was drifting on the descending grade as it was approaching the point where the accident occurred, and all members of the crew on the engines were maintaining a lookout ahead.

The first indication of defective track was when the front end of the first engine dropped down. This engine overturned to the left before any action could be taken to stop the train.

The investigation disclosed that throughout a distance of 58 feet the roadbed was washed out by flood water, and that the west side of the fill had been scoured deeply. Throughout a considerable distance north and south of Stevens Mills rain had fallen during the day of the accident, and about 4:30 p. m., rain of cloud-burst proportions fell. The cloud-burst continued until about 5:25 p. m., and then a heavy rain fell until about 7 p. m. An extra section foreman, who was at a point about 2 miles south of the point of accident but not on duty, became alarmed concerning flood conditions and inspected the track in that vicinity. Because the culverts were filled with water, he talked by telephone with the operator at Richford, 3.3 miles south of Stevens Mills, in regard to the flood conditions. As a result, No. 903 was instructed by message to proceed carefully at Milepost 32, about 1 mile south of Stevens Mills. The extra section foreman flagged No. 903 at Milepost 32, boarded the first engine to inform the engineer of flood conditions, and remained on the engine until it reached a point about 1/2 mile farther north. After the extra section foreman alighted from the engine he observed that the train was being operated under control until it passed from his view. Later, he was informed that No. 903 had been derailed at a washout, and when he arrived at the scene of the accident he found that the roadbed was washed out to a depth of about 3 feet. The rainfall on the day of the accident was heavier than he had previously experienced in that vicinity. The engineer of the first engine said that after the extra section foreman warned him of flood conditions he operated his train at a speed of about 10 miles per hour over the territory where he thought a washout might occur. After his train passed Stevens Mills the track was tangent and there was no indication that high water had caused the track to be defective; therefore, he permitted the speed to increase gradually to about 25 miles per hour. Between points, respectively, 10.9 miles and 4.8 miles south of Stevens Mills heavy rain was encountered, but as his train was approaching Stevens Mills the rainfall had abated considerably. The engineer of the first engine did not know of a washout having occurred previously at the point involved, but the engineer of the second engine said that during 1925 a flood had occurred in that vicinity; however, he did not know if the track had been damaged at that time. The engineer of a north-bound passenger train said that his engine passed over the track involved about 5:30 p. m., and at that time the track was in good condition and the streams were not overflowing their banks.

Under the rules, during storm conditions maintenance-of-way foremen are required to patrol their sections to ascertain if there is any damage and to observe if flood conditions are hazardous. The section foreman assigned to the section involved

said that during the afternoon of the day of the accident, which occurred on Sunday, he was asleep and did not awaken until 4:30 p. m. He immediately proceeded to observe conditions along his section by driving his automobile on a highway paralleling the track. He returned to his home, 3.3 miles north of Stevens Mills, at 5:50 p. m., and at that time there was no indication of defective track. About 7 p. m., after he had received a line-up on No. 903, he and his force proceeded to patrol the track on a handcar. Before he arrived at the point of accident No. 903 had derailed.

The investigation disclosed that the run-off of water from the hills west of the swamp was of such volume that water rose to the level of the ties. Apparently, the opening provided by the culvert located 245 feet south of the washout was not large enough to prevent the water on the west side of the track from rising to a dangerous height. There was no indication that debris had blocked the culvert. The slope of the hillside near the west side of the track caused the water to flow toward the track at a point 58 feet north of the point of accident, and the action of the water scoured the roadbed.

Cause

It is found that this accident was caused by a washout.

Dated at Washington, D. C., this seventh day of October, 1942.

By the Commission, Commissioner Patterson.

W. P. BARTEL,

(SEAL)

Secretary.