

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN
RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED
ON THE CANADIAN PACIFIC RAILWAY NEAR SUTTON, VT.,
ON JULY 9, 1926.

July 26, 1926.

To the Commission:

On July 9, 1926, there was a derailment of a freight train on the Canadian Pacific Railway near Sutton, Vt., which resulted in the death of one employee and the injury of one employee.

Location and method of operation

This accident occurred on that part of the Lyndonville Subdivision of the Farnham Division of the Quebec District extending between Wells River and Newport, Vt., a distance of 63.7 miles, this being a single-track line over which trains are operated by time-table, train orders, and an automatic block-signal system. The point of accident was 0.85 mile north of Sutton; approaching this point from the south there is a compound curve to the right 1,621 feet in length, varying from 1° 6' to 2° 8', followed by a tangent 619 feet in length, the derailment occurring 575 feet north of the south end of this tangent. The grade for northbound trains is ascending from Sutton, varying from 0.8 to 1.03 per cent, being at its minimum at the point of accident. In the vicinity of the point of accident the roadbed is a series of cuts and fills, there being a fill varying from 10 to 20 feet in height on the east side of the track at the point where the derailment occurred.

The track is laid with 85-pound rails, 33 feet in length, with an average of 20 to 21 ties to the rail-length, partly tie-plated, single-spiked on tangents and double-spiked on curves, and was ballasted with from 10 to 12 inches of light gravel. The track is well maintained.

It was raining very hard at the time of the accident, which occurred at about 9.15 p.m.

Description

Northbound freight train No. 903 consisted of 33 cars and a caboose, hauled by B. & M. engine 2625 and C.P. engine 3529, and was in charge of Conductor McLean and Enginemen Stevenson and Rickaby. This train left West Burke, Vt., 2.4 miles south of Sutton, upon the arrival of southbound freight train No. 902, and while traveling at a speed estimated to have been from 15 to 18 miles an hour it was derailed at a culvert located 0.85 miles north of Sutton.

Engine 3529, which was the second engine, together with its tender and the first car in the train, were derailed; the engine and tender came to rest in an upright position with the front end of tender resting on the engine cab, the rear of the engine having dropped down in a washout about 10 feet. The forward end of the first car was telescoped. None of the other equipment was derailed. The employee killed was the fireman of the second engine.

Summary of evidence.

Engineman Stevenson, who was in charge of the leading engine of train No. 903 at the time of the accident, stated that a heavy rain storm started before his train left West Burke and continued to increase in intensity until after the accident occurred, but that he could see the rails at all times and believed that there was no water over them at the point of accident. The first warning he had of the derailment was when the tender of his engine began to rock; he then attempted to apply the air brakes in emergency, but found they already had been applied due to the parting of the train line between the engines, and on looking back he saw the headlight of the second engine rise into the air. He said he then went back to the second engine but on account of escaping steam he could not get near enough to make a careful inspection of it, but it appeared that the rear end of the engine was about 10 feet below the roadbed while the front end seemed to be higher. He further stated that he had never heard of a previous washout at the point of accident and could not recall having this particular culvert referred to as dangerous during heavy rains.

Fireman Moore, of the leading engine of train No. 903, stated that at the time of the accident the engines separated from each other and the air brakes applied in emergency. He went back to the derailed engine and found two rails extending upward near that engine and a large volume of steam coming out from under the engine. He could not go around to the fireman's side of the engine on account of the water, which was nearly up to the cylinders. He said that during the 10½ years that he had been employed as a fireman he had never experienced any trouble with high water in this vicinity.

Engineman Rickaby, who had charge of the second engine, stated that at the time of the accident his train was running about 15 miles an hour and his first warning of the impending accident was the rocking of his engine which was followed almost immediately by a sudden drop.

The statements of Head Brakeman Lefrance, who was riding on the second engine at the time of the accident, and Conductor McLean and Rear Brakeman Charron, who were riding in the caboose of train No. 903, practically corroborated those of the other members of the crew.

Statements by members of the crew of southbound train No. 902, which passed over the culvert where the accident occurred at about 8.45 p.m., were to the effect that no water nor any other unusual conditions were observed at this point. The fireman of this train, however, noticed water running along the side of the track at a point $\frac{1}{4}$ or $\frac{1}{2}$ mile north of the culvert where train No. 903 was derailed, while the engineman noticed water up to the ties on the west side of the track, and the fireman reported the matter to Section Foreman Tyler upon the arrival of his train at West Burke.

Section Foreman Tyler said the fireman of train No. 902 called to him on the arrival of that train at West Burke that the water was over the track north of Sutton. The fireman did not give him the exact location, and as train No. 903 had already started he had no opportunity of giving this information to the crew of that train. He had been in charge of the section where the accident occurred until June 1 of this year, and said he had cleaned out the culvert in question during the spring and had left it in good condition.

Section Foreman Pelow, who has charge of the section on which the accident occurred, stated that he and three of his men were patrolling the section during the rain storm and passed over this culvert at about 7.30 p.m., and while it was raining very hard at that time, yet the water passing through the culvert did not appear to be rising. He said he examined the culvert just before the storm and found it to be in good condition. In his opinion the accident was caused by the water becoming dammed on its course down the hill by brush and waste wood, which was later dislodged by the heavy volume of water behind it and swept down the hill, blocking the culvert.

Sectionman Grondin, who is employed on the section on which the accident occurred, stated that on the morning of July 13 he followed the course of the brook from the right-of-way to the top of the hill and from his examination at that time he was of the opinion that the stream had been dammed in three different places during the storm on July 9 and that these dams were formed of floodwood and brush, which gave way when a heavy volume of water collected behind them, the pressure then sweeping the debris down and blocking the culvert, the water being of sufficient volume to cover the fence on the west side of the right-of-way.

Roadmaster Vallier, who had been in charge of the track in the vicinity of the point of accident for 10 years, stated that he had never known of any trouble at the culvert where the accident occurred and it appeared to him to be of sufficient dimensions to take care of all the water that might flow from this stream.

Examination of the track showed that a section of road bed 37 feet in length had been washed out, the maximum depth of the washout being 6 feet 9 inches, with about 160 cubic yards of material being displaced. The culvert at the point where the road bed was washed out was of stone construction, 3 feet 6 inches in width and 3 feet in height.

Conclusions

This accident was caused by a washout.

In this vicinity there is a large watershed on the west side of the track which extends about 1 mile from the track, and which has a slope of about 25°, forming a stream which passes under the track through a culvert known as Culvert 60-1 which was last inspected a short time prior to the accident and was found to be in good condition. Owing to the heavy rain which fell just previous to the time of the accident the stream that

runs through this culvert had swollen and it is probable that the water coming down the watershed became dammed with floodwood and other debris, which held back the water until the pressure became too great, and that when these obstructions finally were dislodged the debris blocked the mouth of the culvert, the passing of the train over this culvert causing sufficient vibration to move the earth, which apparently slid out from under the track while the first engine was passing over it.

All of the employees involved in this accident were experienced men and none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P. Borland,

Director.