

INTERSTATE COMMERCE COMMISSION

REPORT OF THE CHIEF OF THE BUREAU OF SAFETY IN RE
INVESTIGATION OF AN ACCIDENT WHICH OCCURRED
ON THE BANGOR AND AROOSTOOK RAILROAD NEAR
CARIBOU, ME., ON AUGUST 9, 1922.

August 26, 1922.

To the Commission:

On August 9, 1922, there was a derailment of a work train on the Bangor and Aroostook Railroad near Caribou, Me., resulting in the death of 1 employee, and the injury of 1 employee. This accident was investigated in conjunction with representatives of the Public Utilities Commission of the State of Maine.

Location and method of operation.

This accident occurred on that part of the Northern Division extending from Oakland to Van Buren, Me., a distance of 110 miles; in the vicinity of the point of accident this is a single-track line over which trains are operated by time-table and train orders, no block-signal system being in use. The accident occurred about 2 miles north of Caribou station. Beginning at Mile Post 229 about 1.2 miles north of the point of accident and proceeding southward the track is tangent to and for considerable distance south of the point of accident. The grade is varying from 1.2 to 0.5 per cent descending, but at the point of derailment is practically level. The weather was clear at the time of the accident which occurred about 5:15 p.m.

Description.

The train involved, extra 170, was a work train running between Caribou, and Barrett's Siding, 3.5 miles north, and was engaged in hauling and unloading dirt on the road bed. At the time of the accident the train was moving southward and was made up as follows: caboose car, empty flat car, engine 170 backing up, 2 empty gondola cars, and 3 loaded gondola cars. It was in charge of Conductor McCann and Engineman Deakin.

The train had made three round trips between Caribou and Barrett's Siding, and had returned to Barrett's Siding on the fourth trip when it took the siding to allow southbound passenger train No. 8 to pass. After the departure of train No. 8, work extra 170 departed southbound about 5:00 p.m. and proceeded a short distance and stopped to unload two cars of dirt, proceeding again from that point about 5:05 p.m. The train again stopped at a point about 1/8 mile south of Mile Post 229, to allow a member of the

work crew to ascertain the number on the grade stake; the train then proceeded and was derailed a short distance south of Mile Post 229, while running at a speed estimated to have been between 12 and 15 miles an hour.

The caboose and flat car remained on the rails. The engine and tender were overturned and came to rest on their right sides. The two empty gondola cars were derailed but remained upon the roadbed; the forward wheels of the next loaded gondola car were derailed.

The track at the point of the derailment is laid on a fill about four feet in height. The rails are 85-pound steel rails, 30 feet in length, single-spiked, without tie plates, to cedar ties, about 18 ties to the rail. The rails are laid staggard and are fastened with 4-bolt angle bars. The track is ballasted with dirt ballast.

The first mark of the derailment which appeared was a slight flange mark appearing on the gauge side of the ball of the east rail; this extended along the head of the rail a distance of 24 feet where the wheel had dropped off on the outside of the rail. Six feet south of this on the inside of the west rail appeared the flange marks on the ties where the west wheel dropped off. Thirty-four feet south of this point the east rail clearly showed where the flange of the second wheel had mounted the rail. The engine and tender continued running along of the ties for a considerable distance then dropped off the ends of the ties ran down the bank and turned over with the rear of the tender about 250 feet south of the initial point of derailment. Engine 170 was of the G class and 2-8-0 type; length of engine and tender, 68 feet; weight of engine, 204,100 lbs., and tender 149,000 lbs., the tender was of the rectangular type and had a capacity of 7,500 gallons of water and 12 tons of coal. The employee killed was the engineman.

Summary of evidence.

Investigation developed that on July 24th there was a southbound freight train derailed at a point about 90 feet north of the initial marks of this derailment. That accident was reported by the railroad company as resulting from high speed.

As a result of the derailment on July 24th the track was destroyed for a distance of about 1,200 feet. In renewing it about 20 rails and 500 new cedar ties were used, the track was reballasted with material taken from the shoulder of the roadbed and the shoulder was replaced by waste dirt being dumped there. As a result of this accident trains were required by bulletin to reduce speed at this point, passenger trains to 24 miles an hour, freight trains to 20 miles an hour. At the suggestion of the roadmaster this restriction was removed on August 4th.

An inspection of the track made on August 12th, during this investigation disclosed that owing to recent repairs the roadbed was soft and the track in a somewhat uneven condition. The ties in the vicinity while in good condition for cedar ties, appeared to possess considerably less holding power for track spikes than oak or pine ties.

Conductor McCann of work extra 170 stated that at the time of the accident the train was running about 15 miles an hour; this statement is corroborated by the other employees on the train. He stated that at that time he was riding on the rear of the caboose and the first indication he had of the accident was the emergency application of the air brakes. The air brakes were all coupled up and working with the exception of those on the flat car which were cut out on account of undesired emergency applications. Conductor McCann further stated that on the second trip previous he had noticed an uneven spot in the track at the point where the accident occurred. He did not consider the track in first class condition; it was not in good surface or alignment. He believed the leading tender wheel was the first to be derailed.

Brakeman Larlee of the work extra stated that at the time of the accident he was riding on the forward end of the caboose, as he was looking back he noticed the rear of the tender leave the track; he immediately held out his hand as a stop signal to the engineman; an emergency application of the brakes followed, the train continued on about 4 car lengths. He stated that he had noticed uneven spots in the track in the vicinity. He believed that the derailment was caused by uneven track.

Brakeman Pooler stated that at the time of the accident he was riding on the rear of the last car. The first intimation he had of the accident was when he noticed the tender lurch. While he had noticed no rough track he did not think the track at this point was as good as it was at some other places.

Fireman Hale stated that on the last trip north when passing over the point of the derailment he noticed a low spot in the track on the west rail and remarked to Engineman Deakin, "There is a bad hole there". Engineman Deakin replied, "Yes, somebody is liable to go in the ditch there again". At the time of the accident the engine was drifting, he was sitting on the window sill on the left side of the engine, looking forward, he felt tank raise a little

and saw the tender leave the rails; he shouted to the engineman to jump and the engineman applied the brakes. When the engine began to bob on the rails he jumped; after he jumped the engine ran about a rail length before it stopped. In his opinion when the tender struck the low spot it rose and the flange rode the rail. The track in this vicinity is not considered good track but he did not consider it dangerous. At the time of the accident there was about 2 feet of water in the tank and he estimated there was 8 or 9 tons of coal in the tender.

Foreman Gundling employed by the contracting concern doing the grading and who was in charge of the work to be performed by the work train stated that he did not notice any bad spots in the track, but he considered it a little poor in that vicinity.

Section Foreman Bishop on whose section the accident occurred stated that after the derailment of July 24th the track in that vicinity was lifted 2 or 3 inches and material taken from the shoulder. He last worked in that vicinity on July 26th at which time the track was in good condition and he considered it safe for any speed. He passed over the point of the accident at 6:10 a.m., on the day it occurred and noticed no rough spots. He was unable to say what caused the accident. In his opinion the track was in such a condition that it might settle.

Extra Section Foreman Ross stated that on the morning following the accident and before the track had been repaired he took the level and gauge of the track beginning at the point of derailment and proceeding northward with the following results:

Point of derailment	level	Gauge 1/4 inch tight
10 ft north	level	O.K.
30 ft "	1 1/2" west	rail low*
50 ft "	1-3/4	"
70 ft "	1 1/4	"
90 ft "	3/4	"
110 ft "	3/4	"
130 ft "	3/4	"
150 ft "	1/4	"
170 ft "	1/2	"
190 ft "	1/4	"
210 ft "	level	"

Roadmaster Berryman stated that the track in the vicinity of the point of accident was not in perfect but in fair condition. After the accident of July 24th the track was put in what he considered safe condition; nothing further was done in the way of ballasting because he did not think it was necessary in view of the fact that it was to receive a general re-ballasting in the near future. He was unable to say what was the cause of the derailment.

Maintenance Engineer Newbegin stated that the new material placed on the track in the vicinity after the derailment of July 24th was waste material and while it was all right for ballast during dry weather it would not answer such purpose during the winter season. The track in that vicinity was to receive a general re-ballasting in a short time. He stated that there was a low spot in the track at this point which was the result of the new material settling. He stated that the 1/4 inch tight gauge would not interfere with the safe movement of trains.

Examination of the locomotive after the accident disclosed no defects which could have any bearing upon the derailment.

Conclusions.

This derailment was caused by defective track.

It is believed that the new material placed in the roadbed, in rebuilding it after the accident of July 24th settled causing a depression on the west rail which resulted in the rear tender wheels mounting the east rail and derailing followed by the other wheels and the engine. The fact that the subgrade in the vicinity is soft, that there was a derailment in close proximity on July 24th, and the statements of the fireman as to the bad spot noticed in the track previous to this trip all support this conclusion.

By rule the speed of engines backing up is limited to 20 miles per hour and there is no evidence that this speed was being exceeded.

The statements of some of the employees lead to the conclusion that for sometime prior to the accident it was generally known that the track in this vicinity was rough. Even Roadmaster Berryman admits that the track

was not in first class condition, and that the work necessary to put it in such condition was deferred because the line in that vicinity was soon to be reballasted. In this instance the delay resulted in a fatal accident. The slow order placed on this track after the derailment of July 24th, should have been continued in effect until permanent repairs had been made and the track put in first class condition.

Engineman Deakin entered the service of the Bangor and Arcostook Railroad as Fireman in January 1913, was promoted to engineman in December 1916, and had a good record.

At the time of the accident all members of the crew had been on duty 11 hours and 15 minutes, prior to which they had been off duty 12 hours.

Respectfully submitted,

W. P. BORLAND,

Chief, Bureau of Safety.