

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE
NORTHERN PACIFIC RAILWAY

AUBURN, WASH.

DECEMBER 19, 1935

INVESTIGATION NO. 2028

SUMMARY

Railroad: Northern Pacific
Date: December 19, 1935
Location: Auburn, Wash.
Kind of accident: Rear-end collision
Trains involved: Freight : Freight
Train numbers: N.P.Extra 1548 : G.N.No. 672
Engine numbers: 1548 : 3210
Consist: 7 loads, : 63 cars, caboose
caboose, and :
gas-motor car :
Speed: 25-40 mph. : Standing
Track: Tangent about 5 miles; automatic
block signals; numerous landmarks
approaching Auburn; accident
occurred just inside yard limits
Weather: Dense fog
Time: 7:45 p.m.
Casualties: 5 killed
Cause: Failure to operate under proper
control when approaching and
entering yard limits, and failure
properly to observe and obey
signal indications.

February 4, 1936.

To the Commission:

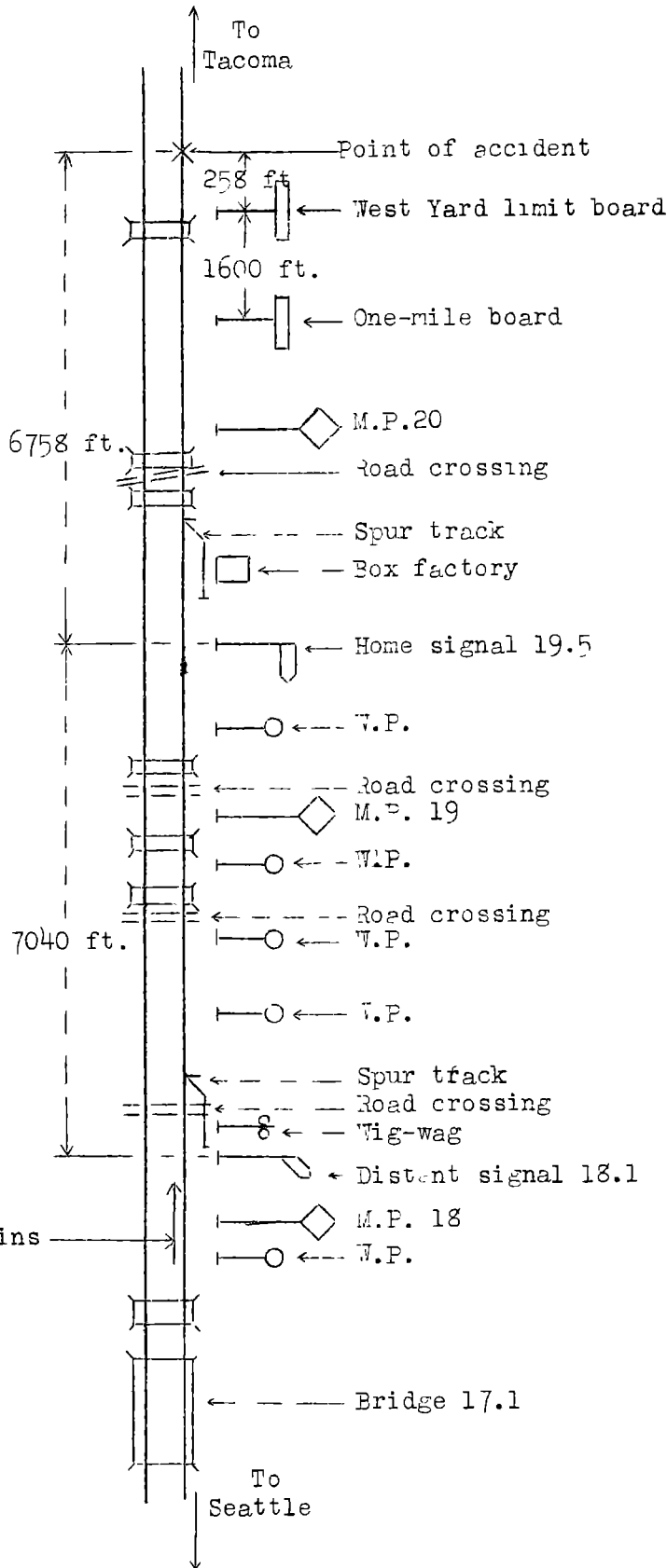
On December 19, 1935, there was a rear-end collision between a Great Northern Railway freight train and a Northern Pacific Railway freight train on the tracks of the latter railway at Auburn, Wash., which resulted in the death of three employees. This accident was investigated in conjunction with the Washington State Department of Public Works.

Location and method of operation

This accident occurred on the Second Subdivision of the Tacoma Division, extending between Seattle and Tacoma, Wash., a distance of 40.3 miles; in the vicinity of the point of accident this is a double-track line over which trains are operated jointly by time table, train orders, and an automatic block-signal system. The accident occurred within yard limits on the east-bound main track, at a point 258 feet east of the west yard-limit board; approaching this point from the west, the track is tangent for about 5 miles, while the grade is slightly ascending for about 2 miles, being 0.277 percent at the point of accident.

The automatic block signals are of the 3-position, upper-quadrant, semaphore type, approach-lighted. Night indications are red, yellow, and green, for stop and then proceed at restricted speed, approach, and proceed, respectively. Signal 19.5 is located 6,758 feet west of the point of accident, while signal 18.1 is located 7,040 feet west of signal 19.5. The station one-mile board is located 1,600 feet west of the west yard-limit board. In addition to the above signals and markers, there are numerous landmarks in this vicinity by which members of a train crew can determine the location of their train. One of these is bridge 17.1, located 3 miles west of the point of accident, which consists of a steel span 181 feet in length over White River, while its total length including the approaches is 1,801 feet; between this bridge 17.1 and the point of accident, a distance of 3 miles, an east-bound train passes 3 mile posts, 4 public road crossings, 1 of which is protected by an electric crossing bell and a wig-wag signal; 2 trailing-point spur-track switches; 7 small culverts; 5 whistling posts, and a box factory. All of the signals and markers, as well as the box factory, are located on the engineman's side of the track.

• Tacoma, Wash.
18.8 mi.
• Auburn (P of A)
1.9 mi.
• Christopher
1.4 mi.
• Thomas
1.9 mi.
• Kent
16.3 mi.
• Seattle, Wash.



AUBURN

CHRISTOPHER

THOMAS

Inv. No. 2028
 Northern Pacific Ry.,
 Auburn, Wash.
 Dec. 19, 1935

The maximum authorized speed for freight trains on this subdivision is 50 miles per hour.

There was a dense fog at the time of the accident, which occurred about 7:45 p.m.

Description

Train No. 672, an east-bound second-class freight train of the Great Northern Railway, hereinafter referred to as the G.N., consisted of 63 cars and a caboose, hauled by G.N. engine 3210, and was in charge of Conductor Broderick and Engineman Geerds. This train left Seattle, its initial terminal, 21.5 miles west of Auburn, at 6:25 p.m., according to the train sheet, 1 hour 20 minutes late, and on arrival at Auburn at 7:30 p.m. it stopped with the caboose 258 feet east of the west yard-limit board. The train had been at this point about 15 minutes when its rear end was struck by Extra 1548.

Extra 1548, an east-bound freight train of the Northern Pacific Railway, hereinafter referred to as the N.P., consisted in the order named of N.P. engine 1548, 7 loaded cars, a caboose, and 1 deadhead gas-motor car, and was in charge of Conductor Martin and Engineman Boyce. This train left Seattle, its initial terminal, at 7 p.m., according to the train sheet, passed signal 18.1, which apparently was displaying an approach indication, passed signal 19.5, which apparently was displaying a stop indication, and collided with Train No. 672 while traveling at a speed estimated to have been between 25 and 40 miles per hour.

The caboose of Train No. 672 was demolished and three cars ahead of it were derailed and damaged; the twelfth, thirteenth and fourteenth cars ahead of the caboose also were damaged, the thirteenth car partially telescoping the twelfth car. Engine 1548 was derailed and stopped upright on the roadbed at a point 148 feet east of the point of collision, with its front end badly damaged; none of the cars in the second train was derailed or damaged. The employees killed were the engineman, fireman, and head brakeman of Extra 1548, all of whom were in the engine cab at the time of the accident.

Summary of evidence

Engineman Geerds, of Train No. 672, stated that as his engine passed the signals approaching Auburn they were displaying proceed indications. A dense fog prevailed, however,

and he could not see the indications of some of the signals until the front end of the engine was about opposite them. When he stopped at Auburn he knew that the rear end of his train was within yard limits and did not whistle out a flag. Later on, however, as was customary in a dense fog, he whistled in the flagman, and then he received a proceed signal which was transmitted by means of opening the angle cock at the rear and then closing it, and Engineman Geerds was endeavoring to start his train when the accident occurred. Engineman Geerds said that he was able to see various landmarks when approaching Auburn, as well as the signals, and that he did not ask for or receive any help in this respect from any of the other members of the crew who were on the engine, saying that he did not think the signal indications could have been seen from the left side.

Rear Brakeman Burton, of Train No. 672, stated that the speed of his train was reduced when approaching Auburn and that he dropped off a red 10-minute fusee at a point 10 or 20 car lengths outside the yard-limit board. After his train stopped he went back as far as the yard-limit board, to make sure that his entire train was within yard limits, and stayed there a short time as an additional precaution. He then returned to within one car length of his caboose and was at this location when the engineman whistled in the flag, and after signalling the engineman by means of opening the train line, he put away his flagging equipment. Shortly afterwards the flagman heard the exhaust of an engine approaching at a high rate of speed, but he did not think it was a following train because of the fact that he had not heard a whistle. He immediately took his white lantern, however, lighted a fusee, and started back as a matter of precaution. On reaching a point about 50 feet from his caboose he saw the reflection from the headlight, the engine then being about 3 or 4 car lengths west of the yard-limit board, and realizing that a collision was imminent he dropped the fusee and ran to a place of safety. Brakeman Burton could not say whether the air brakes were applied on Extra 1548, but said that steam was being worked and estimated the speed of the train to have been between 35 and 40 miles per hour. Brakeman Burton further stated that the markers on his caboose were clean and bright and were burning properly, and that he heard engine whistles of trains of other railroads in this locality, sounded after his own train stopped at Auburn, but at no time did he hear the whistle of Extra 1548 and in his opinion it had not been sounded from the time that train left the vicinity of Kent, 5.2 miles from Auburn, otherwise he would have heard it. After the accident he asked the head brakeman, who died subsequently

from his injuries, whether he saw the indications displayed by the signals and the head brakeman replied that he could not see anything.

Statements of Conductor Broderick, Fireman Remley, Head Brakeman Shock, and Swing Brakeman McIntosh, of Train No. 672, all of whom were on the engine when approaching Auburn, were to the effect that they were fully aware of their location at all times, being able to tell by the various landmarks and particularly when passing over bridge 17.1.

Conductor Martin, Swing Brakeman Adams and Rear Brakeman Ritchie, of Extra 1548, were in the caboose; they estimated the speed at the time of the collision to have been between 25 and 35 miles per hour and said they did not feel any application of the brakes just prior to its occurrence, nor did they hear any whistle signals sounded after leaving Kent. The conductor was working at his desk and was not alarmed about the speed of the short train, saying that speed was reduced to about 20 miles per hour on passing through Kent, and then increased again to about 35 miles per hour; he thought that the engineman was receiving proceed indications on all of the automatic block signals and did not realize that his train was so close to the yard limits at Auburn. Conductor Martin also said he talked with the engineman before leaving Seattle, telling him the consist of the train and the tonnage, and that the next stop would be at Tacoma. The engineman appeared normal in every respect. The swing brakeman was on the left side of the caboose cupola and the rear brakeman on the right side, but a high automobile box car ahead of the caboose interfered with their view to some extent. When in the vicinity of the mile board, however, the rear brakeman remarked that the speed had better be reduced soon, that they were getting close, and then he figured on opening the conductor's emergency valve, but the collision occurred before he had time to do so. The rear brakeman also said that just after passing through Kent the fog was so dense that the signal indications could not be seen until a point opposite the signal was reached, and that for a while he could not determine his location. The swing brakeman said that he was aware of his location most of the time, and he estimated the speed to have been about 35 or 38 miles per hour when passing through Christopher, located 1.9 miles west of Auburn.

According to the record Engineman Boyce made his last east-bound trip over this subdivision almost a year prior to the accident, on Train No. 680, January 1, 1935; he made a west-bound trip on Train No. 679, December 16, 1935, this being 3

days prior to the accident. Fireman Bryan and Head Brakeman Gilbert, however, had been on this run regularly for a considerable period; the fireman was a qualified engineman, while the head brakeman was a qualified conductor.

Master Mechanic Dunkerley stated that engine 1548 was an oil-burning engine of the 2-8-2 type. His inspection of the engine after the accident disclosed that the automatic brake valve was in emergency position, also the straight air valve, while the throttle was open; there were 1-inch slid-flat spots on the driving wheels.

Signal Maintainer Sage arrived at the scene of the accident shortly after its occurrence and at that time Train Second No. 680 had stopped behind the wreckage and was standing on the circuit of home signal 19.5; the signal lamp was burning properly and the signal was displaying a stop indication. Examination and test of the signal apparatus was made by Signal Supervisor Hansen, Assistant Signal Supervisor Rohner, and Section Signal Supervisor O'Loughlin, and it was found to be in proper working order; the signal lamps burned properly, the relays tested satisfactorily, and all circuits were free of grounds; there was no frost condition, nor could any undue friction or other defect be discovered.

Lead Car Inspector Walker and Car Repairer Lindahl tested the air brakes before Extra 1548 departed from Seattle and found them to be in proper working order on the entire train.

Discussion

Northern Pacific rule 93 requires in part that extra trains move within yard limits prepared to stop unless the main track is seen or known to be clear. Notwithstanding the requirements of this rule, the evidence indicated that Extra 1548 entered the yard limits with little or no reduction in speed and that it collided with the rear of Train No. 672 while traveling at a speed believed to have been at least 25 or 30 miles per hour. A dense fog prevailed at the time of the accident, materially restricting the view to be had of signals and landmarks, and under such circumstances it was particularly necessary that the speed of Extra 1548 be reduced to a low rate in order to insure compliance with the rule; in view of the fact that all three of the men who were on engine 1548 died as a result of their injuries it was impossible to determine definitely why the requirements of the rule in question were not obeyed. It is to be noted that this accident occurred in territory protected by automatic block signals and

that two of these signals were located within less than 3 miles of the point of accident. Immediately after the occurrence of the accident, these signals were found to be displaying the required indications, while subsequent examination and tests failed to reveal any condition which could have interfered with their proper operation at the time they were approached and passed by Extra 1548. It is believed, therefore, that the signals were displaying the proper restrictive indications at the time Extra 1548 passed them and that these indications were not observed and obeyed.

The engineman of Extra 1548 had not operated a train in this particular territory since January 1, 1935 until the night of December 16, when he was the engineman on Train No. 679, west-bound, and his next trip was the east-bound trip on which the accident occurred. In view of this fact, and in view of the further fact that some of the employees operating regularly were none too sure of their location at times, it seems probable that this engineman became lost in the fog after leaving Kent and apparently did not recognize any of the various landmarks which were to be found as the train approached the yard limits at Auburn. However, he should have so reduced the speed of his train as to be able to handle it in safety but it is questioned whether he was sufficiently familiar with the territory through which he was operating; this is a matter which should receive the careful attention of responsible operating officials.

For a period of 30 days prior to this accident traffic over the east-bound track averaged about 15 trains daily, and at the time of this investigation several trains were being operated on relatively close headway between the hours of 6 p.m. and 8 p.m. The record indicates that fogs are frequently encountered in this territory. In view of these facts and the conditions surrounding this accident, officers of this company should give careful consideration to the need for additional protection on this line.

Conclusions

This accident was caused by the failure of Extra 1548 to be operated under proper control when approaching and entering yard limits, coupled with failure properly to observe and obey signal indications.

Respectfully submitted,
W. J. PATTERSON,
Director.