

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN
ACCIDENT ON THE CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA
RAILWAY NEAR NORTHLINE, WIS., ON APRIL 3, 1934.

June 8, 1934.

To the Commission:

On April 3, 1934, there was a derailment of a freight train on the Chicago, St. Paul, Minneapolis & Omaha Railway near Northline, Wis., which resulted in the death of three employees.

Location and method of operation

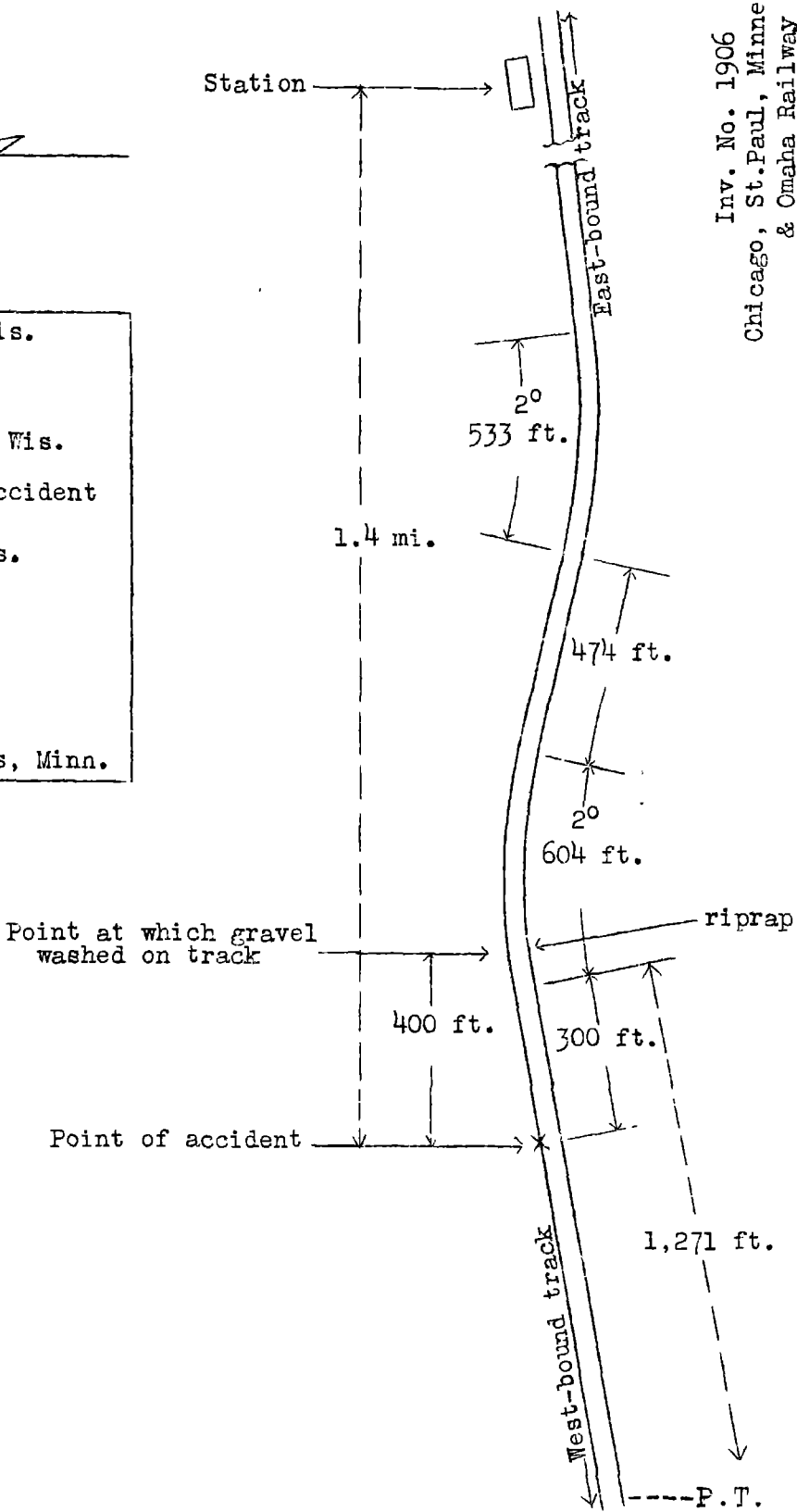
This accident occurred on the Hudson Sub-division of the Eastern Division, which extends between Altoona, Wis., and Minneapolis, Minn., a distance of 99.4 miles; in the vicinity of the point of accident this is a double-track line over which trains are operated by time table, train orders, and an automatic block-signal system. The accident occurred at a point approximately 1.4 miles west of the station; approaching this point from the east, there are several short tangents and curves, followed by 1,271 feet of tangent track, the accident occurring on this tangent at a point approximately 300 feet from its eastern end. The grade for west-bound trains is 1.286 percent descending at the point of accident.

The track is laid with 100-pound rails, 33 feet in length, with an average of 18 ties to the rail-length, fully tieplated, and ballasted with slag to a depth of about 12 inches. The track is well maintained.

In the vicinity of the point of accident the track is laid on a shelf on the side of a ridge of hills which rise on the south to a height of 100 feet or more above the level of the track; immediately east of the point of accident, however, the track runs through a cut in a projecting point of the ridge. The north side of this cut is about 20 feet in height while the south side rises quite abruptly to a height of about 25 feet above the level of the track and then meets the natural slope of the hill through which the cut passes. On the slope of this hill just above and near the middle of the cut, at a point

Inv. No. 1906
Chicago, St. Paul, Minneapolis
& Omaha Railway
Northline, Wis.
April 3, 1934

• Altoona, Wis.
66.5 mi.
• Northline, Wis.
1.4 mi.
✗ Point of accident
1.6 mi.
• Hudson, Wis.
29.9 mi.
• Minneapolis, Minn.



approximately 400 feet east of the point of accident, two channels formed by drainage from the hills converge and the water concentrated at this point has in times past washed out quite a large cavity in the south side of the cut; in order to control the eroding effect of water passing through this cavity, considerable riprap has been provided.

Special time-table instructions restrict the speed of freight trains on curves between Northline and Hudson to 40 miles per hour, and engines 491 and 492 are restricted to a maximum speed of 25 miles per hour in all classes of service.

During the night of April 2 there had been a steady rain, and it was dark and raining steadily at the time of the accident, which occurred about 2:45 a.m.

Description

West-bound second-class freight Train No. 89 consisted of 44 cars and a caboose, hauled by engine 414, and was in charge of Conductor Moore and Engineman Utter. On arrival at Northline, helper engine 491, in charge of Pilot Conductor Martin and Engineman Monson, was coupled ahead of engine 414. This train then departed from Northline, at 2:40 p.m. and had gone about 1.4 miles when it was derailed while traveling at a speed estimated to have been between 15 and 20 miles per hour.

Engine 491 and its tender were partially derailed, and the second engine turned over on its right side down an embankment on the right side of the track beyond the point of derailment, its tender becoming uncoupled and stopping beside the engine; 13 cars were piled in a heap within a distance of a few hundred feet. The employees killed were the engineman and fireman of the second engine and the head brakeman.

Summary of evidence.

During the rainstorm on the night of April 2 and the morning of April 3 there was a heavy rush of water down the channel on the south side of the cut which scoured out the gravel behind and around the riprap and carried a large quantity of gravel upon the tracks. This deposit, which dammed the drainage ditch along the east-bound track, had a maximum depth of about 16 inches over the tracks, which tapered as it neared the north side of the cut so that the west-bound track was overlaid up to about the top of the rail. Due to the damming of the south ditch the water

overflowed to the ditch along the north side of the track, and the water, thus concentrated in the north ditch, in flowing out at the west end of the cut eroded a large portion of the north bank of the cut and undermined the west-bound track just beyond the west end of the cut.

Engineman Monson, of the helper engine, stated that approaching the point of accident he did not see any water along the side of the track, neither did he feel his engine pass over any gravel or see any on the track or any indication of a washout. The train was traveling at a speed of between 15 and 20 miles per hour when he felt the engine sway, and on looking back he saw the following engine turn over, his own engine breaking away from it. Engineman Monson stated that he had passed through this territory when pushing east-bound Train No. 88 from Lakeland Junction, 0.5 mile west of Hudson, to Sono, 1.1 miles east of Northline, returning to Northline about 12:50 a.m.; his engine was backing up, with the headlight burning, but he did not notice any water on the tracks at that time nor had he ever known of any bad water conditions in the vicinity of the point of accident. It had been raining all night, however, and while he was at Northline there had been a steady rain, but there had not been a cloudburst.

Pilot Conductor Martin, of the helper engine, stated that he was riding behind the fireman on his seat box, and did not see any signs of a washout until after the accident. While his engine was shoving Train No. 88 over this track east-bound he was riding in the caboose of that train and paid no attention to the conditions outside until he arrived at Northline. During the delay at Northline the rain was not heavy but there was a great deal of wind, thunder and lightning.

Conductor Moore, of Train No. 89, stated that he had been working on this division since 1903, and during that time most of his service had been between Altoona, Wis., and St. Paul, Minn., within which territory this accident occurred, but this was the first time he had seen or heard of any trouble caused by water between Northline and Hudson. It was raining but not very hard all the way to Northline and he did not notice any water on the track at any point en route.

The members of the crew of east-bound Train No. 88 stated that while there was a continuous rain, with lightning, thunder and a strong wind, no water was seen running over the track between Hudson and Northline nor was any gravel noticed on the track. This train left Hudson about 12:35 a.m.

Telegrapher-Leverman Donahue, on duty at Northline on the night of the accident, stated that the first report he had of track conditions was from the engineman of Train No. 89 on its arrival at that point, the engineman informing him that in the vicinity of Baldwin and Roberts, 17 and 7.8 miles east of Northline, respectively, water was running over the track, that sand was being washed down on a crossing near Roberts, and that some of the signals near Roberts were at stop and some at caution. On trying to call the sectionmen at Roberts he discovered that the telephone line was out of order at that point and it was then necessary to call out Section Foreman Clark at Northline to go to Roberts. Leverman Donahue further stated that about midnight it began raining hard and the wind was so strong that it blew out the block signal light at his station on three or four occasions.

Operator Hurst, on duty at Hudson, stated that the first information he received of water being over the track was when the engineman of Train No. 88 reported about 12:25 a.m. that water was running on the track near Stillwater Junction, 6.5 miles west of Northline. He called the dispatcher who instructed him to call the section crew.

Section Foreman Clark stated that during the 4 years he had been in charge of the section on which the accident occurred he had never had any trouble with water on the track in the vicinity of the point of accident. On one occasion the sand had washed down into the ditch on the south side of the east-bound track, but it had never washed upon the track. During the previous summer he assisted in placing riprap in the gully about 250 feet east of the point of accident; this material was placed there for the purpose of keeping the sand from washing down through the gully upon the track. He was called about 3:50 a.m. on the morning of the accident to go to Roberts, and did not arrive at the scene of the accident until some time after its occurrence. At that time the sand that had been deposited on the track had been cleaned off the rails, but from his inspection he said it had been about 6 inches deep on the south rail. The sand also had washed across to the west-bound track but not above the rails. Section Foreman Clark further stated that this section is patrolled daily on a motor car.

Roadmaster Hendrickson stated that during a heavy storm the previous summer, sand had washed down the gully east of the point of accident, covering the south rail of the east-bound track; the track was then protected by placing riprap in the gully. He had never had difficulty with washouts in that vicinity.

Train Dispatcher Burger, located at Eau Claire, stated that when he was informed by the operator at Hudson that water was running over the east-bound track near Stillwater Junction he instructed the operator to order out the section crew and to hold west-bound trains until they received a report from the section foreman. The section foreman then reported that the shoulder was washing away on the west-bound track and obtained assistance from the other crew at Hudson, while the dispatcher then instructed the operator at Hudson to hold all trains. He had no information from any one about trouble on Northline hill. Dispatcher Burger stated that during his experience a little sand had washed down on the east-bound track in the vicinity of the point of accident, but he had never known of any water trouble at that point, and judging from previous reports of the weather conditions at Hudson he did not consider it necessary to issue instructions to Train No. 89 to proceed with caution down the hill from Northline to Hudson.

Night Chief Train Dispatcher Stubbs, at Eau Claire, stated that while water had been reported on the track near Stillwater Junction and Roberts, and trouble was being experienced at the interlocking plant at Northline and some of the automatic signals were at stop, he had never before received a report that the track between Northline and Hudson was unsafe on account of water and it did not occur to him to notify Train No. 89 that they might have trouble between those two points.

Inspection of the track by the Commission's inspectors disclosed that a section of the west-bound track about 50 feet in length had been washed out to a depth of approximately 3 feet. Gravel lay over the track at a point about 400 feet east of the point of washout, but the rails had been cleared at the time of their inspection. It appeared, however, that the gravel had covered the south rail of the east-bound track to a depth of about 1 foot and had been about even with the top of the rails on the west-bound track. Conditions in the vicinity indicated that a very heavy rain had fallen.

Conclusions

This accident was caused by a washout.

The evidence indicates that during the night there had been a heavy rain, causing a rush of water down the gully on the south side of the cut at a point about 400 feet east of the point

of accident; gravel was washed upon the tracks, damming up the ditch along the south side and causing the water to overflow to the ditch along the north side of the tracks; the water then cut away a large portion of the north bank of the cut and undermined the west-bound track just beyond the end of the cut.

Washouts had been reported east of Northline and west of Hudson, necessitating the calling out of the section crews, but except for a slight washing of gravel during the previous summer there had not been any difficulty between these two points; furthermore, an east-bound train had passed through this cut about 2 hours before the occurrence of the accident, at which time no water or gravel was seen on the track by the crew of that train.

Respectfully submitted,

W. J. PATTERSON,

Director.