INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE

DELAWARE, LACKAWANNA & WESTERN RAILROAD

PORTLAND, PA.

OCTOBER 24, 1937.

INVESTIGATION NO. 2212

SUMMARY

Inv-2212

Railroad:	Delaware, Lackawanna & Western	
Date:	October 24, 1937	
Location:	Portland, Pa.	
Kind of accident:	Side collision	
Trains involved:	Passenger	: Passenger
Train numbers:	No. 388	: No. 47
Engine numbers:	P.R.R. 1564	: D.L.& W. 1402
Consist:	5 cars	: 22 milk cars, 1 passenger
Speed:	10 m.p.h.	: 12 m.p.h.
Track:	Crossover; 0.392 percent descending grade eastward.	
Weather:	Cloudy, damp	
Time:	About 7:07 a.m.	
Casualties:	4 injured	
Cause:	Failure to obey signal indications.	

November 29, 1937.

To the Commission:

On October 24, 1937, there was a side collision between a Pennsylvania Railroad passenger train and a Delaware, Lackawanna & Western Railroad milk-and-passenger train on the Delaware, Lackawanna & Western Railroad, at Portland, Pa., which resulted in the injury of four employees.

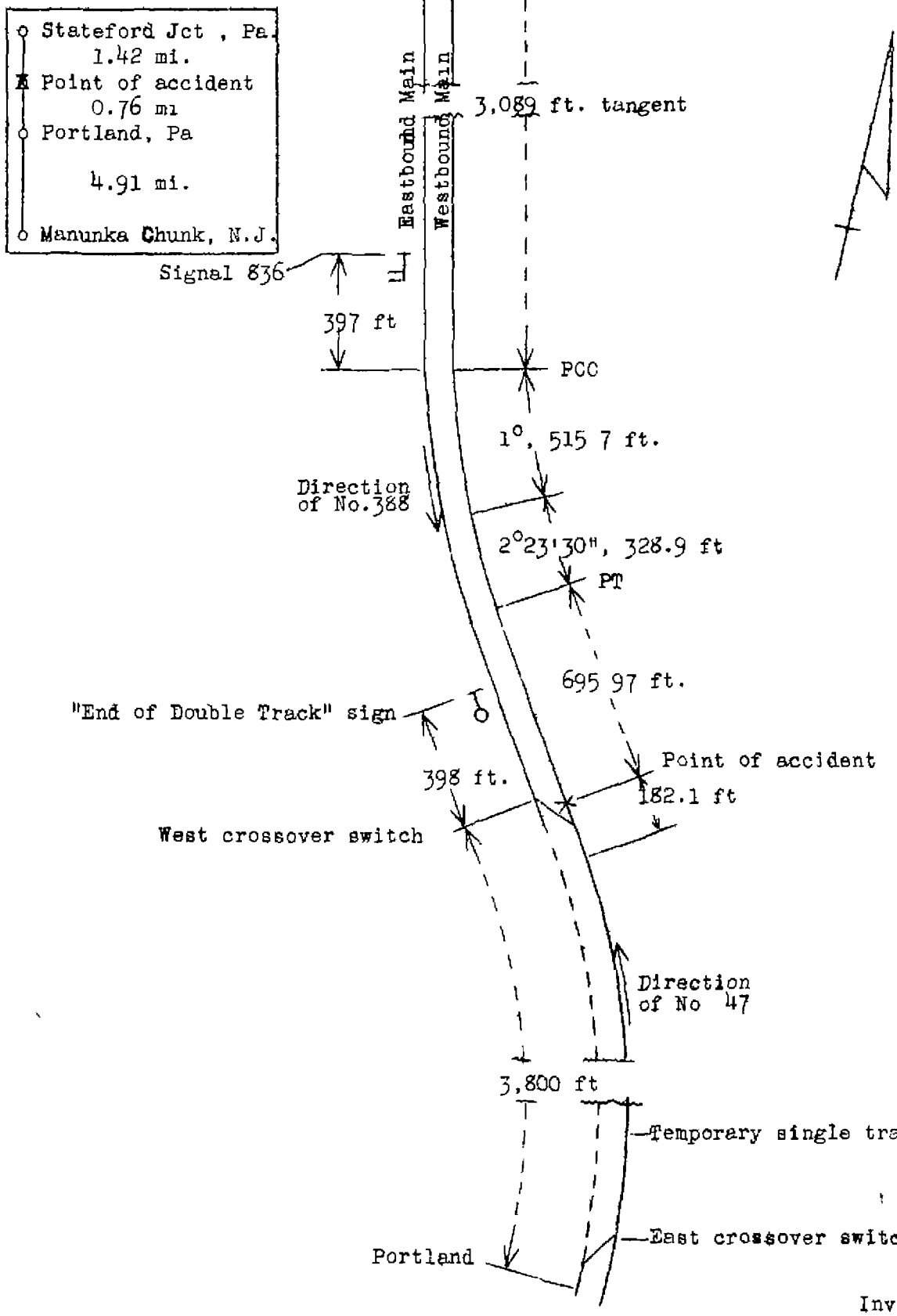
Location and method of operation

This accident occurred on that part of the Morris and Essex Division which extends between Slateford Jct., Pa., and Manunka Chunk, N.J., a distance of 7.27 miles. The Pennsylvania Railroad, hereinafter referred to as the P. R.R., operates passenger trains manned by its own employees over this part of the Delaware, Lackawanna & Western Railroad, hereinafter referred to as the D. L.& W. In the vicinity of the point of accident this is a double-track line over which trains are operated by timetable, train orders and an automatic block-signal system. Compass directions of this line are practically north and south but the timetable directions are east and west; these latter directions are used in this report.

The accident occurred at a point about 4,000 feet west of the station at Portland; approaching this point from the west the track is tangent for a distance of 3,089 feet, followed by a compound curve 845.6 feet in length, varying in curvature from 1° to 2° 23' 30", and then 695.97 feet of tangent to the point of accident. The grade for east-bound trains is 0.392 percent descending.

Due to highway construction in progress adjacent to this line at the time of the accident the east-bound main track was not in use from a point about 4,000 feet west to a point about 300 feet east of the station at Portland, located 2.18 miles east of Slateford Jct., the west-bound main being used as single track between these points. A facing-point No. 10 crossover for east-bound trains was located at the beginning of the single-track section; the accident occurred on this crossover, at which point the track is laid on a side-hill fill. An embankment 23 feet in height, which is covered by trees and other foliage, borders the east-bound track on the right side.

East-bound automatic signal 846, of the two-arm, two-position, lower-quadrant semaphore type, is located about 1,000 feet east of Slateford Jct. At the time of the accident the lower arm was fixed in horizontal position. When the upper arm stands at 45° and the lower at horizontal, the aspect is known as



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"approach", the indication being "prepare to stop at next signal; train exceeding medium speed must at once reduce to that speed". The next signal eastward is automatic signal 836, located approximately 4,500 feet east of signal 846 and about 1,938 feet west of the point of accident; both arms of this signal were fixed in horizontal position, the indication of which is "stop and proceed";however, the letter "G", which identified it as a grade signal, was displayed on this signal, and this permitted trains to pass it without stopping and to proceed at restricted speed.

A sign on the right side of an east-bound train, indicating the end of double track, was located approximately 398 feet west of the point of accident.

A flagman was located at each end of the single track to operate switches to the crossovers; these flagmen collaborated with each other and with the train dispatcher on the telephone in handling trains on this single-track section. This operation was authorized by Bulletin No. 466, which reads as follows:"Effective Thursday, Sept. 30, 1937, all trains in both directions will run on new west-bound track between old crossovers 350 feet east of Portland Depot and new switch, located 1,700 feet east of Signal 836. All trains must approach ends of double track prepared to stop into clear,BUT MAY PROCEED OVER SINGLE TRACK AT RESTRICTED SPEED ON HAND SIGNAL GIVEN BY FLAGMAN ON GROUND. Speed of trains on single track will be limited to fifteen (15) miles per hour".

Rule 509D reads as follows: "On two or more tracks when a train is stopped by a Stop and Proceed signal it may proceed at once at restricted speed". Rule 509F is as follows: "On two or more tracks on ascending grades trains may pass Grade signals indicating block occupied, without stopping, and proceed at restricted speed".

"Restricted speed" is defined as follows: "Prepared to stop short of train, obstruction, or anything that may require train to stop" and "medium speed" is defined as: "One-half maximum authorized speed at point involved, but not to exceed thirty miles per hour unless otherwise provided". The maximum authorized speed is 50 miles per hour.

The weather was cloudy and damp at the time of the accident, which occurred at about 7:07 a.m.

Description

No. 47, a D.L.& W. west-bound milk-and-passenger train, consisted of 12 milk cars of steel underframe construction, 1 all-steel milk car, 4 steel underframe milk cars, and 1 all-steel baggage and passenger car, in the order named, hauled by D.L.& W. engine 1402, and was in charge of Conductor Staiger and Engineman Chase. This train passed Manunka Chunk, the last open office, 5.67 miles east of the point of accident, at 6:41 a.m., according to the train sheet, 3 minutes ahead of schedule and was delayed several minutes at Portland waiting for authority to occupy the single track; when passing the cross-over located about 4,000 feet west of Portland at a speed of about 12 miles per hour its thirteenth car was struck at the east end by P. R.R. Train No. 388.

No. 388, a P.R.R. east-bound passenger train, consisted of 1 coach, 1 combination coach and baggage car, and 3 Pullmans, all of all-steel construction, hauled by P.R.R. engine 1564, and was in charge of Conductor Smith and Engineman Ginder. This train passed Slateford Jct. tower, the last open office, 1.42 miles west of the point of accident, at 7:05 a.m., according to the train sheet, 13 minutes late, and collided with No. 47 at about 7:07 a.m. while traveling at a speed of about 10 miles per hour.

The engine truck and both pairs of drivers of engine 1564 were derailed, the engine stopping upright and pointing slightly to the left of the crossover, the tender and cars were not derailed. The front part of the engine was considerably damaged and stopped under the seventeenth car of No. 47; the leading car of No. 388 was slightly damaged.

The thirteenth car of No. 47 was derailed but only slightly damaged and remained in line with the track about 6 car lengths west of the crossover; the fourteenth car stopped on its side about 5 car lengths west of the crossover and was considerably damaged; the fifteenth car was destroyed and the wreckage stopped in general line with the track about 4 car lengths west of the crossover; the body of the sixteenth car was torn from its trucks and stopped, badly damaged, opposite engine 1564; the seventeenth car, badly damaged, was derailed and its rear end rested on the front part of engine 1564; the eighteenth car was not derailed but the west end was off center. The west-bound track was thrown out of line for a distance of 100 feet.

The employees injured were the flagman and baggageman of No. 47 and the conductor and fireman of No. 388.

Summary of evidence

Engineman Ginder, of No. 388, stated that an air-brake test was made before leaving Stroudsburg, Pa., 9 miles west of the point of accident, and all brakes were working properly. Leaving Stroudsburg he made a running test and the brakes responded but did not hold as they should due to the rails being slippery; the rails seemed greasy and he could smell leaves burning. Due to this rail condition he afterwards shut off steam and made succeeding brake applications in advance of the points where he would ordinarily have started braking. In making the station stop at Water Gap, 4.41 miles west of the point of accident, he ran by the regular stopping point a short distance and when he received a proceed signal from the conductor the train continued on without stopping. He said the speed at Slateford Jct. tower was restricted to 30 miles per hour; however, he attained a speed of about 35 miles per hour at that point and maintained approximately that speed until the engine slipped at a point about 800 feet west of signal 836. He shut off steam and made an 8 or 10-pound reduction. As the train approached this signal the desired reduction of speed was not being attained; he made another light reduction and passed signal 836 at a speed not in excess of 25 miles per hour, but before reaching this signal the fireman warned him to hold the train and he immediately applied the brakes in emergency, started the sand running and then put the engine in reverse. He did not think his train was traveling over 10 miles per hour at the time of the collision. He knew that signal 836 was a grade signal and that it was in stop position at all times; he also understood the grade signal required that he be prepared to stop short of any obstruction and, in compliance with the provisions of a bulletin, he was required to cross over to single track at a speed not in excess of 15 miles per hour. He said there was a slow board near signal 836 and a sign located near the crossover switch indicating the end of double track. The train was about 600 feet west of the crossover switch when he saw the flagman giving stop signals at a point about 2 car lengths west of the switch. Engineman Ginder said he was endeavoring to pass signal 836 at a speed not in excess of 15 miles per hour and also at a rate which would enable him to stop short of an obstruction at any point beyond but due to the bad rail he was unable to do so. When a point about half way between signal 836 and the crossover had been reached the engine wheels started to slide, at which time the speed was about 15 miles per hour. He understood that he was required to bring his train to a stop before fouling the single track in the event he did not receive a proceed signal from the flagman. He had been running over this territory since 1911 and recently had been over it quite frequently.

Fireman Nixon, of No. 388, stated that the engineman appeared normal and that brake tests were made; he observed the engine wheels slipping after leaving Water Gap and thought the speed was not more than 25 miles per hour at any point. Approaching the single track, he had just returned to his seatbox when he saw No. 47 approaching and when his train passed signal 836 he thought something was wrong and warned the engineman who applied the brakes in emergency; after this brake application the train seemed to "fly". Fireman Nixon saw the flagman giving stop signals with a red flag but thought the engineman was unable to see the flagman.

Conductor Smith, of No. 388, stated that his train left Stroudsburg at 6:54 a.m., 14 minutes late, and he corroborated the statement of the engineman concerning the stop at Water Gap. The conductor smelled the odor from leaves on the rails when passing through Water Gap. Approaching the point of accident he thought a service application of the brakes was made at a point approximately 800 feet west of signal 836, and after this application was made it sounded as though the wheels were skidding. He was on the rear platform of the first car and estimated the speed to be about 10 miles per hour at the time of the accident which occurred about 7:06 or 7:07 a.m. He saw leaves on the track in the vicinity of the point of collision. It was cloudy at the time of the accident and there were indications that it had been raining shortly before that time. The statements of Flagman Brewer and Trainman Seargent, of No. 388, produced nothing additional of importance.

Engineman Chase, of No. 47, stated that his train stopped at the east end of single track and stayed there about five minutes before receiving a signal from the flagman to proceed; the train departed at about 7:07 a.m. and when his engine was about 10 car lengths west of the west crossover switch, proceeding at a speed of about 12 miles per hour, he observed No. 388 approaching rapidly. He said the weather was foggy and there was a little frost and that his engine slipped a little that morning.

Fireman La Barr, of No. 47, said the weather was foggy and he thought it had been raining during the night. He said his engine slipped after leaving Portland. After the accident he went to the P.R.R. engine and saw a lot of leaves on the track in that vicinity but he did not notice any sand. The statement of Conductor Staiger, Flagman Kelley and Baggageman Melick, of No. 47, developed nothing additional of importance.

Flagman Keller, who was protecting the west end of the single track, said that No. 388 was late and he called the

dispatcher on the telephone who instructed him to line up the switches for No. 47 and to hold No. 388 if it showed up before No. 47 reached there. After lining up the switches he proceeded about 18 rail lengths westward, having a red flag and torpedoes with him. The engine of train No. 47 passed him at 7:06 a.m., at which time he saw No. 388 approaching about 700 or 800 feet distant; he thought the engineman of the latter train could see him He estimated the speed of No. 388 to be about 30 miles per hour when it passed him and thought the accident occurred at 7:08a.m. at which time he said it was raining.

Signal Engineer Saunders stated that the single-track section was only temporary. On double track trains were operated under the protection of an automatic block-signal system of the 2-arm, 2-position, lower-quadrant, semaphore, home-and-distant type. He said that No. 388 was required to operate at medium speed from signal 846 to 836 and to be prepared to stop at signal 836. However, signal 836 had been made a grade signal by placing the letter"G" on the mast and this permitted trains to pass it at restricted speed.

Trainmaster McClelland stated that prior to this accident there had been no trouble with respect to speed restrictions on the single-track section. He said it was cloudy the morning of the accident but there was no fog and the visibility was good.

Yardmaster English arrived at the scene of the accident about 7:55 a.m. He examined the train and saw indications that wheels on No. 388 had been sliding for a distance of 17 rail lengths or 663 feet. There was a slight drizzle at the time of his examination; he saw no leaves on the track nor any indication of sand.

Master Mechanic Feeley arrived at the scene of the accident at about 9:40 a.m. In checking over engine 1564 he found the brake valve in emergency position, the reversing gear back about three inches beyond center, throttle valve closed, and sander valve closed, there was sand on the ground which indicated that sand had run some time after the engine stopped. He said there was nothing inside the engine cab that would have interfered with the engineman's attention to the track ahead. The master mechanic observed evidence of the engine wheels having slid a distance of 663 feet; the marks on the rails were 5/8 inch wide. Later, a test of the engine brakes was made and they were found to be working properly. There were flat spots about three inches long on the driving wheels. Master Mechanic Feeley saw no leaves on the rails but did see evidence that sand had been used.

Enginehouse Foreman Lewis and Engine Inspector Hayden stated that engine 1564 was in first-class condition when it left Gravel Place on the morning of the accident.

Car Inspector Taffinger stated that he tested the brakes on the cars of No. 388, with engine 1564 attached, before this train left Stroudsburg and found all brakes to be in proper condition.

Traveling Air Brake Instructor Meincke stated that after considering the manner in which Engineman Ginder stated he operated his brake he was of the opinion that the train must have been traveling at a much greater speed than that estimated by the engineman for the reason that an emergency application made on a train of the type of No. 388 should stop it within a distance of 1,900 feet when traveling at a speed of 75 miles per hour; this was the approximate distance traveled by No. 388 after Engineman Ginder stated the emergency application was made. He saw small flat spots on the engine and tender wheels but said he did not know if these were caused by the emergency application since the spots were not blue in color.

General Air Brake Inspector Lantelme, of the P.R.R., was of the opinion that with a train being operated at a speed of 35 or 40 miles per hour within 800 feet of signal 836, there should have been a further brake pipe reduction, in addition to the 8 or 10-pound reduction already made.

Observations of the Commission's Inspectors

The Commission's inspectors examined engine 1564 after it had been moved a distance of about 93 miles from the scene of the accident. They found that the flat spots on the wheels had been practically eliminated. At the scene of the accident they found occasional leaves on the track; however, the weather was not similar to the conditions at the time of the accident.

Discussion

The evidence is to the effect that on the morning of the accident the rail was slippery due to dampness and leaves on the track. The air brakes on No. 388 functioned properly en route although due to the condition of the rail the engineman started braking sooner than usual; the schedule was being maintained but no time was made up between Stroudsburg and the point of accident. The engineman stated that he passed signal 846 at a speed of about 35 miles per hour and continued at that speed until within 800 feet of signal 836. Since he received an approach indication at signal 846 he was not permitted to exceed half the maximum authorized speed, or 25 miles per hour.

Although the indication of signal 836 permitted him to proceed only at restricted speed, the engineman said he passed that signal at a speed of not more than 25 miles per hour. He thought the bulletin authorized trains to pass signal 836 at a speed of 15 miles per hour. An emergency application of the brakes was made in the vicinity of signal 836; the engineman said this application was made just before reaching this signal while the fireman said the application was made just after passing it. The train continued a distance of more than 1,900 feet beyond this signal to the point of collision and was traveling at a speed of about 10 miles per hour at the time of accident. Marks on the rails indicated that the engine drivers skidded a distance of 663 feet.

The engineman of No. 388 had run over this territory intermittently since 1911 and recently had run over it frequently. He was required to control the speed of his train beyond signal 836 in such manner as to stop short of an obstruction and, in addition, the train was not authorized to enter the single track without first receiving a signal from the flagman to proceed; since No. 47 was struck while passing the crossover, it is apparent that No. 388 was being operated at a speed too high to comply with these restrictions.

Conclusions

This accident was caused by the failure properly to control the speed of No. 388 when passing a grade signal and approaching a crossover at the end of double track.

Respectfully submitted,

W. J. PATTERSON,

Director.